UNIVERSITY NEWS

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Universities and their Autonomy

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USEFI Project to Help Indian Students

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Varsities Sports Calendar

Sports Board Meeting

Mr Bhagwat Jha Azad, Union Minister of State for Education, inaugurating the 28th annual meeting of the Inter-University Sports Board at the Indian Institute of Technology, Bombay, last month. Also seen in the picture are Prof. S. K. Bose, President of Sports Board and Dr Amrik Singh, Secretary.

UP Plan to Encourage Study of South Indian Languages

THE U. P. Government has decided to give a scholarship of Rs. 250 to eight students who have passed their M. A. examination in Hindi in first or high second class to learn South Indian languages in one of the universities in the South during 1968-69.

The candidates will study Tamil at Annamalai, Telugu at Waltair, Kanarese at Mysore and Malayalam at Trivandrum Universities.

Besides the scholarship which will extend to a period of 12 months, students will also be entitled to railway fare and other expenses. The duration of the course is ten months.

Burmah-Shell Scheme

Burmah-Shell will award two scholarships one each at the Indian Institute of Technology, Bombay, and the Indian Institute of Technology, Delhi, for 1968-69 for a postgraduate course in engineering or science leading to M. Tech. or M.Sc. degrees, for one of the subjects offered at the institute.

The scholarships are open to engineering and science graduates including those who are in service.

The scholarships valued at Rs. 400 a month in case of engineering and science fresh graduates, and Rs. 800 a month in case of engineering and science graduates already in service. These scholarships will last for the duration of the course.

Applicants must have secured a first class degree sueh to qualify them for admission as to the institute of their choice. In the case of serving engineering or science graduates, each candidate must also obtain a certificate from his employers to the effect that the employers have no objection to the candidate's taking leave of absence for pursuing postgraduate studies under the Burmah-Shell scholarship, and that the candidate will have a lien on his job until the completion of the course.

Candidates must be citizens of India. There is no age limit. It is incumbent upon candidates to secure admission to the institute of their choice, if they have not already done so. The proper forms for such admission may be obtained by sending a self-addressed stamped envelope to the director of the institute concerned, specifying the exact course for which the forms are required.

The selection will be made by a committee consisting of senior government officials and members of Burmah-Shell staff.

Applications must be sent in an envelope clearly marked "Burmah-Shell scholarships in technology" to the director IIT, Powai, Bombay-76 or the director, Indian Institute of Technology, Hauz Khas, New Delh-29. Applicants should indicate in their letter whether they have already applied to the IIT concerned for admission or not, and if so the date on which they applied for such admission.

Applications for Burmah-Shell schoarships in technology must reach the director of the institute concerned on or before June 10, 1968.

Scheme for Blind, Deaf

THE Union Government has announced scholarships for blind, deaf and orthopaedically handicapped students for general, technical and professional education and for apprenticeship courses for 1968-69.

The scholarships at present tenable up to March 31, 1969, may be renewed on a year-to-year basis till the completion of a particular stage of education of training.

For blind or deaf students, applicants eligible for scholarships should be between the age of 16-30. Orthopaedically handicapped students should be in the 12-30 age group.

Polish Awards

The Ministry of Education, Government of India, Section E.S-1, Shastri Bhavan, 'B' Wing New Delhi-1, invites applications for Polish Government, fellowships-1968-69 from Indian nationals for the award of six fellowships each for (*a*) advanced course in national economic planning and (*b*) postgraduate course in town and country planning during 1968-69.

The value of each fellowship is (*i*) free tuition fees; (*ii*) maintenance allowance of 2,400 BI (Rs. 758 p.m.) (*iii*) free medical care (*iv*) free lodging; and (*v*) teaching material free of charge. Duration of awards for economic planning is 4-7 months; and for town and country planning four months. For national economic planning (*i*) at least a second class master's degree in economics and (*ii*) at least two years experience in planning after master's degree; for town and country planning (*i*) at least a bachelor's degree or equivalent qualification in civil engineering or architecture or master's degree in geography and a postgraduate diploma in town planning from recognised universities/institutions and (*ii*) at least three years' practical/teaching /research experience in responsible capacity after obtraining the bachelor's degree.

Candidates for national economic planning should not be more than 35 years of age and those for town and country planning not more than 40 years on September 1, 1968.

Last date for receiving applications is June 10, 1968.

Bombay Variety Offer

Bombay University, department of economics, invites applications for the following scholarships/ fellowships in industrial economics or public finance :

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Varsity Students, Teachers Camp

A six-day all-India university teachers and students camp was inaugurated by Dr D. S. Kothari, Chairman of the University Grants Commission, in Bombay recently. The camp was organised by Bombay University and National Integration Colloquium.

The objective of holding this camp was to start a dynamic university movement that would help in constructive and creative purposes and lead to national integration.

Some 500 students, boys and girls, and teachers drawn from 57 universities from various parts of the country, attended the camp. Among those who addressed the students were Dr D. S. Kothari, Mr Achut Patwardhan, Sarvodya leader, Mr P. B. Gajendragadkar, Dr A. L. Mudaliar, Mr R. R. Diwakar, Mr Jayaprakash Narayan and Mr K. M. Munshi.

Messages wishing success to the camp were received from the President, Dr Zakir Husain, Vice-President, Mr V. V. Giri, Prime Minister, Mrs. Indira Gandhi, the former President, Dr S. Radhakrishnan, Dr P. V. Cherian, Mr C. Rajagopalachari and others.

At the conclusion of the camp, the participants pledged themselves with faith and determination to protect and maintain the unity and integrity of India. They also pledged to uphold the democratic way of life and the rule of law besides maintaining secularism and communal harmony. Mr. P. B. Gajendragadkar, Vice-Chancellor of Bombay University and chairman of the camp, administered the pledge in the presence of Dr P. V. Cherian, Governor of Maharashtra and Chancellor of Bombay University.

The pledge taken by all the 500 participants in the camp declared the academic community's faith in social equality and economic justice and the determination to assist the nation in its endeavours to achieve this twin objective subject to the rule of law.

They also resolved their faith in the need to keep out of partisan politics from the university campuses and persuade political parties to refrain from using the university community for political ends.

The pledge emphasised their faith that it was not beyond the comptence of the academic community to bring about a rational solution, by peaceful and democratic means to the language problem. They would make an earnest endeavour to solve this problem consistent with the unity and integrity of the country and with the ideal objectives of the education acceptable to the entire academic community.

The pledge further said that the students would not adopt, resort to, or support any coercive or violent method in support of one view or another in relation to the language or any other matter concerning the university community.

The six-point pledge was read by the entire gathering as Mr Gajendragadkar administered it. The pledge concluded: "We declare as members of the academic community that we are Indians first, Indians second and Indians last and take the pledge that we will so conduct ourselves in our individual and collective lives as to set a modest example to the rest of our countrymen."

VCs Discuss Plans for Production of Hindi Books for Varsities

A conference of vice-chancellors on the production of university level books in Hindi was held in Banaras Hindu University on February 1-2, 1968. Besides Prof. Sher Singh, Union Minister of State for Education, the conference was atteneded by 22 vice-chancellors and three representatives of 25 universities of Bihar, U.P., M. P. and Rajasthan. Besides, Mr G. P. Pandey, joint secretary, ministry of education, Dr. S. Balasubramaniam, chairman of the commission for scientific and technical terminology, Prof. A Chandrahasan, director of the Central Hindi Directorate, education secretaries of the Governments of Haryana, Himachal Pradesh, Rajasthan and U.P., a number of special invitees known for their expertise, Mr Ganga Sharan Sinha, chairman of the Akhil Bharatiya Hindi Sahitya Sangh, and a number of professors of Banaras Hindu and other universities attended the meeting.

In all, 64 persons participated in the conference which met under the chairmanship of Dr A. C. Joshi, Vice-Chancellor of Banaras Hindu University.

The report of the proceedings of the conference has now been published as a supplement to "Shabdavali Patrika", the quarterly journal of terminology issued by the commission for scientific and technical terminology, of Union Ministry of Education. The reports runs into about 150 pages.

Important Decisions

Some of the important decisions of the conference as given in the report of working group on follow-up of the decisions of the conference are as follows:

1. This conference agrees with the recommendations of the Education Commission and the committee of members of Parliament on education that regional languages be adopted as the medium of education in all faculties up to the highest level and this change-over in the medium should be brought about with five to 10 years. Even in professional faculties like engineering, medicine, law and agriculture, it should be possible to switch over to Hindi for the first degree course at the latest from the admissions of 1973.

The Programme

2. In order that the change-over in the medium of education leads to the improvement of standards of higher education, it is necessary for every university to undertake a systematic programme of re-orientation and training of the teachers and the production of quality literature, including text-books, reference books and periodicals giving information about the recent advances in different disciplines. The programme of production of quality literature should be adequately finan ced, both by the Central and state governments. In this context, the conference welcomes the decision of Government of India to give a grant of Rs. 1 crore to every state for production of books in regional languages for higher education. The conference urges that energetic steps should be taken by different agencies to properly utilise these funds. The best means for this purpose would be to set up or utilise existing autonomous organisations consisting largely of academic people.

3. In order that the best talent available in the country is harnessed for the production of essential literature, it is desirable that different state boards should select authors not only from their own region but from all parts of the country.

4. In order to assist in the planning and co-ordination of the Hindi book production programme, this conference should meet at least once a year to review the progress in the different fields and to suggest measures for filling up the gaps in the literature.

To implement the decision of the conference, it was decided to set up a standing committee consisting of the following:

(*i*) seven vice-chancellors;
(*ii*) chairmen of the state boards of books production or their nominees;
(*iii*) secretaries of the Government of U.P., M.P., Rajasthan, Bihar and Haryana;
(*iv*) a representative of the Union Ministry of Education
(*v*) a representative of the University Grants Commission;
(*vi*) chairman of the commission for scientific and technical terminology;,
(*vii*) chairman or the nominee of the Official Language (Legislative) Commission.

Standing Committee

The seven vice-chancellors elected to the standing committee are:

1. Dr. A. C. Joshi, Vice-Chancellor, Banaras Hindu University,
2. Dr. Abdul Aleem, Vice-Chancellor, Aligarh University.
3. Dr. D. P. Singh, Vice-Chancellor, Agricultural University, Pantnagar.
4. Mr. K. L. Joshi, Vice-Chancellor, Indore University.
5. Dr. Bisheshwar Prasad, Vice-Chancellor, Bhagalpur University.
6. Prof. M. V. Mathur, Vice-Chancellor, Rajasthan University Jaipur.
7. Mr. D. C. Verma, Vice-Chancellor, Kurukshetra University, Kurukshetra.

Dr. A. C. Joshi was elected the first chairman of the standing committee for a period of two years. The standing committee will meet as and when necessary to set up the necessary machinery for its work.

PLEASE NOTE !

Renewal notices are sent only to individuals. Institutions are deemed to be regular subscribers to this magazine. They therefore receive a subscription bill. If however any instituion wishes to discontinue it may please inform this office.

Indo-UAR Agreement for Scientific Collaboration

By Our Special Correspondent

UNDER the Indo-UAR agreement for scientific collaboration signed last month at Cairo the Joint Scientific Board will initiate point research projects in areas of mutual interests. The areas in which collaboration is anticipated are; textile chemistry, chemistry of dyeing and dyes; manufacture of metallic magnesium and sodium and research on problems in corrosion; optical glass and structure of glass; water pollution; dairy and food industries; extractive metallurgy; medicinal plants; petro-chemicals; meteorology; fisheries, building research; experimental medicine and reproductive biology and instrumentations.

The agreement was the result of a top—level Indian scientists' delegation headed by Dr Atma Ram, Director—General of Council of Scientific and Industrial Research, visit to UAR for about 10 days from April 27 last to finalise the programmes. The team, besides Dr Atma Ram, consisted of Dr B. D. Tilak, director of the National Chemical Laboratory, Poona, Professor B. R. Seshachar, head of the zoology department, Delhi University, and Dr S. H. Zaidi, director of the Indian Toxicological Research Centre, Lucknow.

Besides, the UAR Ministry of Scientific Research has suggested to the Indian scientists to explore possibilities of joint research projects in the following fields; spectrochemical analysis, electronic components, physical properties of textiles and metals, building and maintenance of mechanical, electrical, electronic and optical instruments.

Other joint research projects between both countries are planned in: breeding of carp (silver and grass carp), desert reclamation, dyes and intermediates and water haycinth.

The Indian and UAR scientists also agreed at Cairo to exchange senior scientists for short visits for consultation, lecture or for solving some questions of mutual interest in the field of scientific research. It was also decided that scholarships and fellowships for scientific personnel, including research workers, specialists, technicians and assistants in various scientific fields would be given and delegates would be invited to attend scientific conferences and other scientific gatherings to be held at in both the countries.

The Indo-UAR scientific collaboration first began in September 1958. As a result of this agreement, a plan of scientific and technical cooperation between the C.S.I.R. of India, and the Ministry of Scientific Research of UAR was prepared.

It was then agreed that UAR researchers will come to India for training in laboratories and research centres of the CSIR in the following subjects; solid state physics, ultrasonics, textile chemistry, metallurgy, electrochemical industries, glass and ceramics, leather research ,marine chemicals, vegetable oils, electronics, public health, mechanical engineering, aeronautics, petroleum, scientific instrumentation, chemical engineering, experimental medicine and virology, chemistry, bio-chemistry, pilot plant action of drugs and parasites, pharmacology and antibiotics, maintenance of experimental animals. On the other hand, the UAR was to receive senior Indian scientists to work in research centres of the Ministry of Scientific Research in chemical, aeronautics (wind tunnels), and electronic engineering and experimental medicine and virology.

The Indian scientific delegation which went to UAR in April visited various scientific and research centres in UAR to explore possibilities of research by Indian scientists.

The Indo-UAR research programme for 1968-69 which was finalised in Cairo will cover; problems of water hyacinth and breeding of carp, population control, pharmaceuticals, nutrition, microbiology, food production, desert reclamation, soil conservation, animal husbandry, ceramics and peaceful use of atomic energy

It was proposed by the Indian side that some other projects of mutual interest like (*i*) sewage treatment for the development of oxidation ponds technique (*ii*) industrial waste treatment (*iii*) river pollution survey (*iv*) water treatment (*v*) rural sanitation (*vi*) air pollution and (*vi*) food sanitation may also be taken up by both the countries. Emphasis was also to be laid on bulk pharmaceuticals, fine organic chemicals and intermediates for dyestuffs, pharmaceuticals and plastic industries in future'

Under the agreement, some 20 UAR scientists have so far come in India and worked in the various research centres, national laboratories and other institutions since 1965, including at the headquarters of the CSIR at New Delhi.

India has spent about Rs. 2 lakhs for providing research, training and instructions to the UAR scientists in India so far. On the Indian side, the visits by scientists have not been frequent however. Only six scientists have so far gone to UAR on lecture, consultation or conference assignments. However, it is proposed to extend the scope of Indian research workers' stay in UAR in the new agreement.

Contributions!

Articles on different aspects of higher education in India and abroad and on students' problems, write-ups on universities and campus news are invited for publication in the University News. These may be sent to the Publication Officer, Inter-University Board of India & Ceylon, Rouse Avenue, New Delhi-1.

GOVERNMENT OF INDIA
BHABHA ATOMIC RESEARCH CENTRE
(TRAINING SCHOOL)

ADVERTISEMENT NO. 31/68

Recruitment for posts in the Bhabha Atomic Research Centre, the Tata-Institute of Fundamental Research, Space Research Project , Nuclear Power and other Projects under the Department of Atomic Energy.

TWELFTH COURSE COMMENCING IN AUGUST 1968

Applications are invited from qualified candidates for the Twelfth Course of the Training School of the Bhabha Atomic Research Centre for under-going training in the following subjects :—

1. Physics
2. Chemistry
3. Engineering (Chemical/Communication/Electrical/Mechanical)
4. Metallurgy

The course will commence in August 1968 and the duration of the training will normally be one year.

QUALIFICATIONS:

(*i*) (*a*) **Physics and Chemistry Courses:**
A first or second class M.Sc./B.Sc. (Hons) (3 years after intermediate) or M.Sc. by thesis or B.Sc. with at least 60% marks in the aggregate in the optional group. Chemistry candidates with biology as subsidiary subject in their B.Sc. course *need not apply*. B. Sc. (Hons) and B.Sc. candidates should have a combination of at least two of the following subjects in their courses: Physics, Chemistry and Mathematics; Chemistry candidates must have had Mathematics at least upto Intermediate and not Pre-University level.

(*b*) **Engineering Courses:**
A first or high second class degree securing not less than 60% in the aggregate in Chemical, Communication, Electrical or Mechanical Engineering. Candidates who have specialised in the following subjects in Chemical Engineering are *not eligible*. Oils and Fats; Dyes and Dye Intermediates; Paints and Varnishes; Glass and Silicate Technology; Sugar Technology; Textiles.

(*c*) A first or second class degree in Metallurgy.

(*ii*) Candidates who have appeared for examination and are expecting to secure the required qualifications are also eligible to apply. In their case the results indicating the class and marks secured should be communicated as soon as they are published, quoting the application number communicated to them.

AGE:

Candidates should not be more than 26 years of age on August 31, 1968. The age limit may, however, be relaxed in exceptional cases.

STIPEND AND PAY :

During the period of training, the candidates will receive a stipend of Rs. 300/- per month and total book allowance not exceeding Rs. 200/-. After successful completion of the training course, candidates will be absorbed in one of the following grades:

(*a*) Scientific Officer/Engineer—Grade SC1 Rs. 400-400-450-30-600-35-670-SG-35-950.

(*b*) Scientific Officer/Engineer—Grade SC2 Rs. 400-40-800-50-950.

All the trainees in engineering and metallurgy, who successfully complete the course will be offered the SC2 grade. Physics and Chemistry trainees, whose performance at the Training School is exceptionally good will also be given the SC2 grade. Successful trainees will be appointed in any of the units of the Department of Atomic Energy.

BOND:

On joining the Training School, a trainee will have to:

(*a*) Furnish a fidelity bond for an amount of Rs. 3,600/- to cover the period of his training,

and

(*b*) Execute a bond to serve in any unit to which he is posted under the Department of Atomic Energy for a minimum period of three years after successfully completing the course.

HOSTEL FACILITIES:

A hostel is attached to the Training School. Boarding and lodging in the hostel is compulsory. The trainees will have to join the Contributory Health Service Scheme.

APPLICATION FORMS:

Application forms with further particulars can be obtained by post from the Deputy Establishment Officer (R), Bhabha Atomic Research Centre, Central Complex, North Site, Trombay, Bombay-74.Postal request for particulars and application forms, indicating the subjects for which the application forms are required, should be accompanied by a self addressed envelope (23 cm × 10 cm size) with 50 paise stamps affixed thereon.

Application forms can also be obtained on personal request from the General Section, Bhabha Atomic Research Centre, Old Yacht Club, Chhatrapati Shivaji Maharaj Marg, Bombay-1.

The last date for receipt of the completed applications is JULY 1, 1968. Intending applicants are, therefore, advised to ensure that requests for application forms are sent sufficiently in advance.

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Campus News

Mysore Varsity to Compile Kannada Encylopaedia

THE Mysore Government has transferred the work of compilation and publication of the Kannada encyclopaedia to Mysore University. The work which is likely to cost Rs. 25 lakhs is to be completed within five years.

The university will make all arrangements in connection with compilation and publication of the encyclopaedia and take over all the material relating to the project from the director of public instruction, Mysore Government.

The university will appoint its own staff needed to execute the scheme. The university syndicate accepted the scheme as it thought that it was indicative of confidence which the state government had in university's ability to implement it. It will indeed be a proud day when the Kannada encyclopaedia gets published within the stipulated period of five years.

Meanwhile, Dr. M. R. Rajasekhara Setty, head of the zoology department, has been nominated to attend 12th international congress of geneticists to be held in Tokyo from August 19 to 28 next.

The syndicate has approved a monthly grant of Rs. 200 to the Mysore University national integration samiti.

Visvabharati: Dr Kanailal Ganguli has been awarded a prize of 5,000 DM by the *Mathaeus Merian Gesel schaft*, West Germany, for his translation into Bengali of Goethe's "Faust" (Part I).

Punjabi: The university has decided to institute a one-year postgraduate diploma course in statistics for M.A. and M.Sc. in mathematics.

The university also proposes to introduce pre-doctorate course in physical education from the next academic session. The university recently arranged extension lectures in journalism for about 70 working journalists from all over the state.

Delhi: The university is planning to reduce the duration of the correspondence courses. This is being done with a view to attracting more students to the correspondence course of the university. The present four-year degree correspondence course is proposed to be reduced to three years as in the case of regular college students. It is felt that the longer period of the course has prevented many students from joining the course.

Meanwhile, the university also plans to reduce the period of honours course from four to three years in the evening colleges. This is being done with a view to bringing the course on a par with morning course.

Seven new postgraduate courses have been introduced by the faculty of medical sciences in the new academic year.

Out of these, five are degree courses while two are diploma courses. The degree courses are; master's degree in dermatology, radio diagnosis, radio therapy, social and preventive medicine and medical microbiology.

The new diploma courses are in microbiology and hospital administration. The qualification laid down for admission to the degree courses is M.B.B.S. with one-year practical experience in the chosen field. Graduation is the basic requirement for admission to the diploma courses.

There are plans to introduce a diploma course in Western music in the university music department from the current academic session.

University of Agricultural Sciences, Bangalore: The university recently organised a two-week summer training course in statistical methods and design of field experiments. Agricultural scientists in charge of field experimentation work at the research stations, and college and university teachers participated in the programme.

The programme was inaugurated by Mr C. S. Seshadri, director of bureau of economics and statistics. Dr N. P. Patil, director of research of the university presided.

Kurukshetra: The department of mathematics recently organised a summer institute in mathematics for secondary and school teachers. It was directed by Dr. C. Mohan. Besides, Dr. Max D. Larsen of University of Nebraska, Lincoln, Nebraska, U.S.A., U.S. consultant to the institute, gave a brief survey of the development of modern mathematics in his country.

I.I.T., Madras: Dr A. Lakshmanaswami Mudaliar, Vice-Chancellor of Madras University, recently inaugurated the all-India summer institute in biology at the I.I.T. campus. Forty teachers, including 10 women, attended the institute. It was directed by Dr R. Kalyanasundaram, director of the institute. Mr S. E. Hodgson, regional representative, British Council, Mr J. D. Smith, assistant regional representative and Mr J. B. Hunt, head of the biology division, Westminster City School, London, spoke on the occasion.

Osmania: Dr. D. S. Reddi, Vice-Chancellor, laid the foundation-stone of the institute of public enterprises building on the campus recently. The Union Government and some public enterprises in the country have sanctioned grants for the building.

The university is conducting a six-week summer institute in English for college teachers. To give training in modern methods of English teaching, a demonstration class is also attached to the institute. Prof. D Y. Morgan, and professors from the Central Institute of English are conducting the courses at the institute Dr A Ramakrishna Rao of the department of English, Osmania University, is the director. Meanwhile, summer institute in biology, chemistry and mathematics are also going on at the campus. A group of American consultants are assisting in the conduct of the summer institutes.

UNIVERSITIES AND THEIR AUTONOMY

By A. M. Ghose

Coordinator, General Education Coordination Centre, Rajasthan University

WHY do we, after all, need education? An examination of this innocuous question forces us to take a number of issues into account and when we do find out answers we discover that they are far more complex than the question initially suggested.

There can possibly be two distinct answers. One is that we need education primarily as individuals while the other is that we need education as members of a larger social group, as citizens of a country or as partners of a particular culture. An individual as such, according to one view, need not necessarily be aware of the demands of the society of history, and even when he is aware of them he may not wholeheartedly own them; an individual can, at least to a considerable extent, ignore the requirements of the country; in short, it is conceivable that an individual has an existence which is not swallowed up by the requirements of a society or a country or even by a particular culture. On the other hand, there is the view that the individual should have a greater sense of history; the individual's destiny is inalienably related to the destiny of a larger group like the society or the country. For, according to this view, the individual has no existence apart from the society in which he "naturally" lives.

That education is concerned with the individual, his spiritual fulfilment and his future may be called the traditional view; this has also been called the "cultural approach" to education, while the modern view relates education to "manpower requirements". Education, according to this view, has a social function and it consists in developing human beings as instruments for building national, economic and military strength.

In a pre-industrial society, in a society which is 'markedly stratified and where mobility is slow the 'cultural approach" is popular. But a society which on account of industrialisation has freed itself from the shackles of tradition, a society in which mobility is relatively faster the "manpower approach' necessarily acquires greater relevance.

Educational thinking in this country is nearly wholly a "middle class" affair. Those who impart education and those who take decisions regarding our educational policies like most students who receive higher education belong to the middle class. Hence the values nurtured by and conducive to the growth and survival of the middle class are clearly reflected in the prouncements of our educational thinkers. The views expressed by our educational thinkers, nourished as they are by the thoughts of Newman, Livingstone, Whitehead and Dewey, rarely reflect the hopes and aspirations of the what Gasset would call the "masses". Our educational thinkers seem to labour under the illusion that with the spread of education all the classes will be absorbed by the middle classes: In fact, educationists have seldom concerned themselves with the massive social changes that are taking place all around us. This means that either we have different educational systems to suit the needs and requirements of different sections and classes, themselves determined by a host of factors like language, religion, history, etc. or we have a single, and may be a broad and widespread, system to meet the requirements of a homogeneous society, which will emerge only slowly. What is the nature of this society that we wish to bring into existence? Are our educationists even sufficiently aware of this society and the conflicts its emergence will inevitably precede? I have yet to come across an educationist who has cared to look at these issues.

Investigations

Secondly, most of those who write seldom care to draw conclusions from the facts as they obtain in the society; the rigorous and empirical investigations are conspicuous by their absence. To take an example. The view that our educational standards are deteriorating is shared by a pretty large number of responsible educationists, teachers and administrators. I have often been tempted to ask: what exactly is meant by these persons when they talk about deterioration? How do they measure the quality of education? I am sure that these questions cannot be satisfactorily answered until sustained investigation is carried out. And for that we want a large army of trained investigators, psychologists, sociologists, economists and statisticians. It is indeed surprising how so much could have been written by so many authors when the amount of serious empirical investigation available is so scant?

The third characteristic drawback from which most educational authors in our country suffer is that they seldom take each other seriously. During the last two decades, quite a few persons, former ministers, vice-chancellors, educational advisers, members of the University Grants Commission, directors of public instruction and professors have written thousands of pages and strangely one seldom comes across these authors referring to the views of their peers. The indifference of these authors towards each other is amazing and ununderstandable. There are no philosophical controversies, no serious debates but only volleys of printed pages. The unwholesome result of this indifference is that a consensus simply does not emerge; the publications are treated as ends in themselves, cavalier exercises in elegant theori-

1. S.R. Dongerkery: University Autonomy 1967 in India. Lalwani Publishing House, Bombay; Rs. 15.50
2. S.R. Dongerkery: University Education 1967 in India. Manaktalas, Bombay; Rs. 36.00

sation; the authors and their views scarcely yield any concerete programme.

Roots of Matter

The two authors—and they were not mere authors —whom we have neglected most are Tagore and Gandhi. To my mind they are the only two persons who cared to go to the roots of the matter. They were not experts in the sense in which a professor of education is one, nor were they well informed about our educational affairs but they knew better than most of us about the real shortcomings in the field of education. And I would like to refer to one of the shortcomings to which they were among the first to have drawn our attention. Nobody knew better than Tagore and Gandhi—on many other issues they held different views—about the dysfunctional nature of our education. Education, according to both of them, as it had been introduced by the British rulers, was not related to the needs and requirments of the country, its history and culture. This, they said, was ruinous and they were right. On the one hand, modern education had raised barriers between those who received "education" and those who didn't. On the other hand, those who received "education" were not virtually connected with the creative aspects of national life. Only a few among those who did receive education were administrators and lawyers, the vast majority were humdrum quilldrivers. Large areas of national life—trade, commerce, science and mathematics, remained neglected in the sense that those who received education seldom cared to enrich those areas. To say this is not to say that there were no exceptions and it is on account of these exceptional cases a sweeping condemnation is not permissible.

The system of education as it was introduced by the British rulers was backed by several presuppositions. In the first place it was presupposed, a presupposition which, unfortunately, many Indians had shared, that all that was worthwhile in the sphere of knowledge had to be imported from Europe; there was nothing which India could teach to her children. In science and mathematics, in philosophy and literature and in history and politics, the Indians, in their own interest, it was said, should do well to discard what their ancestors had thought and written. Indians, it was added, were incapable of contributing anything to the stock of knowledge; they were only to receive and to emulate. Not only European science, mathematics, philosophy, literature, history and politics were superior to those that had been thought about and written in this country; the authors, the books and the methods of teaching—all had to be imported from abroad.

Self-Confidence

A dominant minority, the English educated middle class, brought up in this atmosphere soon lost all the self-confidence it had and acquired little. A system of education which cannot instil a sense of love and respect for one's own country, its peoples and its heritage, is the best weapon that a ruling nation would like to wield and that explains why the views of Tagore and Gandhi, for example, were never taken into account by the several commissions the alien government had appointed from time to time. Ordinary civil servants were considered good enough to evolve the educational policies and, with a few exceptions, mediocres from Oxford and Cambridge were deemed enlightened enough to impart all the knowledge we were to acquire.

A conscious effort to make education functional in that it is geared to the social, cultural and economic needs of a particular society is undoubtedly a modern phenomenon. But a native though vague awareness of education being structured to serve certain abiding needs of the society has always been the feature of educational systems except perhaps those that were evolved during the British rule. In the century-old confusion that followed the battle of Plassey, the foreign rulers had known enough about us and our infirmity to see that we would not resist their assaults. And we on our part had painfully realised that there was no way of forging ahead except by trying to emulate as well as we could the values and norms the British authors, poets, and dramatists portrayed or the best of their administrators, jurists and educationists who came here embodied.

Country's Image

The autochthonous traditions of thought were moribund in spite of what many orientalists and Indologists had found and done. The image of the country's past was in a way restored by these Indologists, but the interest the average educated Indian took was at best that of an antiquarian. The past ceased to have a living and relevant contact with the present and the future was being fashioned by the foreign bureaucrats to perpetuate their own interests. The results of this odd situation in the field of education were:

1. The traditional seats of learning became totally obsolete,
2. The new class of educated persons became gradually alienated from the traditional moorings, intellectual and cultural,
3. The large mass of people who received no education whatsoever were thrown into deeper darkness of obscurnatism and supersition,
4. The new seats of learning, schools and colleges, by imparting an education which was dysfunctional, encouraged verbalism and intellectual parasitism, or at best, a kind of pallid literary scholarship, and
5. The spirit of inquiry and adventure, the most important element in any education, was completely lost.

University Autonomy in India is an elaboration of points made in one of the chapters of *University Education in India*. In all, the book contains seven chapters; the first and to my mind, the most important chapter is entitled, "The Concept of University Autonomy". The author takes great pains to explain the lexical imports of the terms and distinguishes university autonomy from academic freedom, an issue also examined at length in the report of the Education Commission, 1964-66.

But Dongerkery never seems to be bothered about the need of explaining what is meant by autonomy in the sphere of higher education. What are those agencies which thwart our freedom? And what for do we need freedom? What are those problems which could directly be traced back to our lack of freedom? And, finally, how is autonomy related to our financial problems?

The second chapter deals with the assaults on university autonomy in several other countries of Africa, Europe and America and shows how ideological, racial and political considerations have led to the curtailment of university autonomy. The third and the fourth chapters deal with the problems pertaining to university autonomy in India. Dongerkery holds and rightly perhaps that during the last two decades the promise shown by the government and the universities in restoring autonomy has not been really encouraging. Dongerkery says in a cryptic fashion, that this has "been partly due..... to the fact that democratic traditions of the university autonomy that came to us from the West have yet to take roots in the soil." I really don't know. In what sense the universities in Britain, France or Germany were democratic? One wishes Dongertkery had discussed how democratic traditions could ake roots in the Indian soil, for, after all, the universities themselves have a significant role in absorbing those traditions. What to my mind is important is that those who are associated with higher education sho uld above all be "scholars, inventors and discoverers", interested in the general weal. This also means that the society which has brought forth the university should really care for fearless and well-informed critics, critics deeply concerned with the problems that actually plague the society. The teacher-critic or the scholar-critic is no doubt a relatively new species of intellectual in our society and, I fear, we may have to wait for long for their proper emergence in our national life.

Motley Crowd

Universities in this country come into existence not because there is a crying need in the society, nor because their absence is felt by a small but active and of scholars and investigators, but because a motley crowd of politicians, philanthropists, educated but unemployed young men (future administrators and teachers), shop-keepers, tailors and owners of eating houses find them propitious in the neighbourhood. I think the heart of the matter is this. A society, where the "elite" is never used to take major decisions, where the means of livelihood are extremely limited, or are available only to a few, where class distinctions are rigid, freedom cannot exist either as a fact or as a value. If the autonomy of our universities has been impaired, as Dongerkery seems to suggest, it is because the universities and those who run it, do not reflect a style of life where autonomy is treated as a value. Scholarship, learning, widening the horizons of mind, devotion to truth, unhurried research and genuine concern for the youth of the society and the world at large—they do not really characterise the men associated with our universities. Our teachers,

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in particular, will have to struggle hard to regain these qualities and the struggle may take a long time. Only in course of time the "elite" will acquire the responsibility of taking major decisions, the means of livelihood will be available to many, and the barriers between classes will be surmountable The significant peculiarity of the situation is that the universities are the promoters as well as the products of these changes. I am always reminded of the Miltonic statement, "None can love freedom heartily but good men; the rest love not freedom, but licence."

UNIVERSITY EDUCATION IN INDIA

The initial chapters deal with the universities in ancient and medieval India, the contribution of the Christian missionaries, the controversy between the orientalists and the occidentalists, the despatch of Wood and several other landmarks of university education. They are written with care and brevity and based upon materials often collected from second hand sources.

The seventh chapter on types and constitutions of the Indian universities is informative. The next chapter on "University Autonomy" contains much that Dongerkery works out in the earlier work. Chapter VIII entitled "Special Features of Some Universities" deals mainly with the four Central universities. "The Role of Teachers in University Education" begins by recalling the names of the great universities of yore and their illustrious teachers about whom we, unfortunately, know so little. The author laments over the fact that "our teachers are not inspired by an idealism which rejects wordly pleasures, and so on. But he never asks, why are our teachers self-seekers if they are so? Why do they not scorn delight and live laborious days. It is idle to expect that the flame of idealism would shine in a harsh and competitive world. The norms and values of a stable and stratified society are bound to wither away. The teacher maintains his status and prestige not by acts of self-denial—if self-denial is a virtue then there is no reason why the teacher alone should be expected to practise it—nor by embodying national culture, nor even by getting better emoluments, but by making himself more useful to the society, its youth and their passionate desire to change the shape of things. A teacher who has never ceased to come closer to the students and through them to the society, has cared to understand their views about things and situations and has helped them in meeting the situations, has always been respected and loved.

The qualities I would expect the teacher to cultivate are large sympathies and the capacity to unite imagination with learning and scholarship. If he has imagination and no learning he turns a visionary and if he has learning and no imagination he becomes a pedant and a bore. If most teachers in our country are docile beasts of scholarly burden, it is because their predecessors, as subject peoples, had been told only to wait at the receiving end and never to stand at the other extreme. The fact remains that we had been deprived of our rights to take decisions on our own for nearly two centuries; if our teachers today think that they are mere conveyor belts, I am not really surprised. In fact, the teacher in India had never played his proper role for several centuries partly because of foreign domination and, prior to that, because the society never cared for academic excellence and values. If the society did not care for academic values, it is because its structure and goals were such that non-teachers were good enough to do all that was worthwhile. The teacher in underdeveloped countries has to face and solve stupendous problems; he has to change the structure of the society and set new goals.

Research tends to be organically related to teaching only when teaching is creative; when, however, teaching is repetitive as it usually is in our country, research is at best a burden to be carried for the sake of professional survival or else an ornament. To be sure, every attempt to combine teaching with research in academically underdeveloped countries serves no purpose; teachers neglect teaching—in a country like ours such negligence is dangerous—and only pretend to carry on research and research scholars revel in weaving delicate, if useless, patterns of theories; education and culture become divorced from activity and change. That accounts for the peaceful co-existence of superstition and talent in contemporary Indian society. The chapter on "Teaching and Research" disappointed me because the author never faces the question why teachers in our universities neglect research and why those who pretend to remain engaged in research—the number of serious researchers, as everybody knows, is very small—shirk teaching. I for one do not expect that all teachers should remain engaged in research and, in fact, it is not necessary until the teacher is expected to teach things based on his own findings. In other words, as long as the teacher is expected to teach what a few have found out—the resources at our disposal being what they are we cannot really expect the researches to be done properly—the emphasis should be on teaching. The reasons why our teachers are not allowed or expected to teach their own views and findings are too many to be analysed and examined here.

Our students are not seekers of truth and knowledge. Most of them go to colleges and universities because they and their parents do not find anything else to keep them engaged. A few care for the degree because it is a "badge". Knowledge that is imparted in our seats of learning being very largely irrelevant to the actual and possible needs and requirements of the society, has a value which could best be called literary or "artistic"; it attracts, rather used to attract, young men from that section of the society which enjoyed leisure and wealth. The chaos that we see among the students in our universities is largely due to the irrelevant and obsolete things they are taught. One wished Dongerkery to add a chapter regarding the necessity of curricular reforms.

The chapters on "Standards of Teaching and Examinations" and "The Medium of Instruction in English" contain interesting details. Dongerkery doubts if the regional languages could really become effective media of education, because there are not enough text-books to be read and teachers to teach. A very powerful argument is that such steps as the

(*Continued on page 15*)

Marathwada University Library

By N. G. Manurkar

THE Marathwada University Library was established in 1958. To begin with, it was housed in an old middle school building and the extension buildings of the old university campus at Aurangpura with the meagre accommodation of two halls and four rooms in all. Provision could, therefore, be made only for 40 students at a time in the reading room.

Mr. N. A. Gore joined as the first university librarian in December 1959 and still continues in the post.

The foundation-stone of the present library building was laid on October 16, 1960, by Mr. Y. B. Chavan and it was declared open on March 25, 1966, by Dr. S. Radhakrishnan.

The impressively elegant library building has been built at a cost of about Rs. 10 lakhs. Two-thirds of the cost was borne by the University Grants Commission and one-third by the Government of Maharashtra.

The entrance to the library building which is adorned with the famous Ajanta arch, provides a significant symbolic rendering of Marathwada's affiliations with its great historical past. The interior of the building with its modulations of space and light is appropriately designed and executed in terms of a functional architecture conducive to a comfortable and yet unobstructively quiet atmosphere, and prompt and quick library service.

The building consists of three storeys with a mezzanine floor on the third storey just above the reading hall in the northern half, and two storeys in the southern half. The former includes two stack rooms and a reading hall, the latter houses the administrative offices and the photocopying, microfilm, audiovisual, seminar, conference and committee rooms. An automatic lift has been provided for the movement of books from one floor to another. An exhibition room has been earmarked for displaying old and rare books as well as books of current and topical interest so as to attract and stimulate the attention of readers.

Besides, there are 56 cubicles for the use of professors, senior research students and postgraduate students. The cubicles are distri-buted over the basement, the first floor, and the mezzanine floor. At a time, accommodation is available for 400 readers including those who use the carrels.

Further Extension

The three stack rooms in the library can approximately accommodate some 2,30,000 volumes and backsets of periodicals. An interesting feature of the building is that it has been so planned as to facilitate its prospective further extension without in any way weakening the architectural integrity of the building, or its internal functional efficiency, or its total aesthetic harmony. New units could thus be erected for stacking additional books as the number of aquisitions increases over the years.

The library has eight different sections: acquisition, accounts, typing, technical and circulation, periodicals, binding and reference sections.

The library remains open for eight hours in the day throughout the year, except on public holidays. During the examinations, the library remains open on Sundays and other holidays. also.

The university library has a staff of 36 members including the librarian, assistant librarian, library assistants, clerk-cum-typists and other workers.

The University Grants Commission and the Government of Maharashtra have played vital role in the growth and development of the Marathwada University Library. The UGC provided up to 1966 Rs. 2,00,000 for humanities and Rs. 2,50,000 for the purchase of science books. It has additionally sanctioned Rs. 1,52,000 for furniture and equipment on the basis of $\frac{2}{3}$ and $\frac{1}{3}$ by the UGC and the State Government, respectively. The State Government too helped with an ad hoc grant of Rs. 1,60,000 to purchase the valuable collection of 44,000 books in 19 60from Raja Shamraj Bahadur of Hyderabad.

Up to 1966, Marathwada University had spent Rs. 4,54,000 out of its own sources. In addition the university has spent Rs. 1,76,000 on the various individual departmental libraries.

The university also provided Rs. 1,30,000 for purchase of books and periodicals during 1967-68. Besides, the university library has been allotted a basic grant of Rs. 2.1 lakhs and Rs. 2 lakhs as development grants from the UGC to purchase books during the fourth five-year plan.

On March 31, 1968, the library had a collection of 97,668 volumes, which includes valuable holding of nearly 44,000 books purchased from Raja Shamraj Bahadur of Hyderabad. Included in this collection are a number of rare volumes on English literature, and Indian history, arts and culture, Marathi and Sanskrit works. The following are worthy of special mention:

Milton, John: Works of Vols. 1-8 Pickering edition of 1851.

Dumas, Alexander: Works of Vols. 1-40 Boston, Colonial Press. 1884.

Dryden John: Works of..... Vols. 1-18 Edinburgh A. Constable. 1821.

Ruskin, John: Works of..... Vols. 1-39 London, G. Allen and Unwin. 1903.

Scott, Walter: Works of..... Vols. 1-112 Edinburgh. Adam nd Charles Black. 1880.

Dickens, Charles: Works of.. aVols. 1-30 London. Chapman & Hall. 1881.

Griffiths, J.: Paintings in the Buddhist cave temples of Ajanta, 2 vols. 1896.

Punch: Vols. 1-199 for the years—1841-1940.

History of Persian Art, 5 Vols.

The Bhagavada Gita: nearly 500 volumes of texts eds. and studies.

Omar Khayyam: The Rubayat 120 edition most of which are illustrated.

Herbert, Th.: Some years Travels into Diverse parts of Asia and Africa. Published in 1638.

The Syracusan Tyrant, or Life of Agathocles. Published in 1661.

Bocklern G. A.: Architecture Curiosa Nova. published in 1664.

Ogilby, John: History of Asia. Published in 1673.

The library is well equipped with reference tools. The library has acquired important reports issued by various Government departments in India and also by the various institutions of higher learning.

The university library has a fine periodicals section which receives more than 800 journals covering a wide range of subjects.

The library preserves a typewritten copy of every thesis approved by Marathwada University for award of doctorate degree.

In order to provide facilities to the professors and research scholars of the university, the library has an inter-library loan arrangements. Seventy-three books were borrowed from other institutions while 12 books were loaned out to other libraries in 1967-68.

Since 1961, the university has been spending Rs. 5,000 a year to enable the members of the teaching staff of the university and the affiliated colleges to build up their personal library by awarding Rs. 100 each. A teacher has has to contribute Rs. 100 or Rs. 200 depending on their salaries to purchase books worth Rs. 200 The responsibility of administrating the scheme is borne by the library.

In 1967-68, the library had 474 members and 23,197 books were issued 27,041 books were consulted in the reading hall.

Special attention is given to reference and bibliographical services.

PERSONAL

Mr. G. K. Chandiramani, educational adviser and additional secretary, has taken over from Mr Prem Kirpal as Secretary to the Union Ministry of Education recently.

Mr Prem Kirpal, Secretary to the Union Ministry of Education, has retired from the post.

Dr Vikram Sarabhai, Chairman of the Indian Atomic Energy Comn ittee and National Committee for Space Research, has been named as the vice-president and scientific chairman of the U.N. conference on the exploration and peaceful uses of outer space to be held in Vienna from August 14 to 27.

Dr K. L. Shrimali, Vice-Chancellor of the Mysore University, will visit the U.S. for four months from September on an invitation from the University of Southern Illinois.

Mr Uma Shanker Joshi, Vice-Chancellor of Gujarat University, will share the Jnanpith literary award for 1967. The value of the award is Rs. 1 lakh.

Professor A. B. Lal has been appointed Vice-Chancellor of Allahabad University for a term of three years.

Dr B. Samantarai has been appointed Vice-Chancellor of Orissa University of Agriculture and Technology, Bhubaneswar.

Mr Vasantrao Dhamankar, deputy registrar, (formerly assistant secretary, Inter-University Board of India and Ceylon) has been appointed registrar of Marathwada University.

Mr R. D. Joshi has joined as registrar of the Punjab Agricultural University recently.

Prof S. N. Singh, head of the department of zoology, Osmania University, has been awarded "G. D. Bhale Rao Gold Medal" by the zoological society of India for his distinctive contributions in the field of helminithology (worms). He is leaving for Moscow shortly as a visiting professor under the Indo-Soviet cultural exchange programme.

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ETA Project to Help Indian Students Plan Study in US

By **Dr Promila Gupta**
Evaluation, Testing and Advising Officer, USEFI, New Delhi

As ETA is not a standard abbreviation, it may not be out of place to explain its meaning at the very outset. The three letters, E, T and A, stand for Evaluation, Testing and Advising.

EVALUATION, as understood in this context, refers to the services offered by the "Interviewing and Evaluation Service" (IES) of USEFI. This service was established in 1967 when 20 American universities were invited to participate. Positive responses to our invitation were received from most of these universities while some others not included among the invitees showed considerable interest in the IES. At present, there are 27 participating universities and the service offers to interview and evaluate those gratudate level applicants in whom the participating U.S. institution, after a preliminary screening, has a reasonable interest. This is the experimental phase of the service and although no fee is charged by the U.S. institutions at this stage, a mailing fee (sufficient to cover the cost of report typing and mailing) is charged from the applicant who is interviewed and evaluated.

More than 900 requests for interviews have already been received by the IES, and final reports on 505 candidates have been sent to the institutions concerned. It is encouraging to know that a high proportion of the candidates interviewed by the service have gained admission to the participating American institutions. Several of these candidates have also been offered some form of financial assistance.

The TESTING aspect of the ETA project entails the administration of the English language proficiency test of the American Language Institute of Georegetown University known in its abbreviated form as ALIGU. It fulfils two purposes—first, the Consular section of the American Embassy requires an English proficiency report on each applicant for a visa; secondly, almost all American institutions require some kind of a English proficiency report before they will admit a student. The ALIGU test serves both these requirements.

The ADVISING aspect is by and large the major work of the ETA project. USEFI now has full-time professionally qualified student advisers in Delhi, Bombay, Calcutta, Madras and half-time student advisers at Bangalore and Hyderabad. Each of these offices has a reference library of U.S. college catalogues and general reference material. The central ETA office at Fulbright House, 12 Hailey Road, New Delhi, assists these offices to develop advising materials and other aids to guide the student seeking information about study in the U.S.

NEED AND JUSTIFICATION

India is the largest country sending students to the U.S. and, excepting Canada, also ranks first in terms of its student body in the U.S. For some time, USEFI along with such U.S. organisations as NAFSA (the National Association for Foreign Student Affairs), AACRAO (the American Association of Collegiate Registrars and Admissions Officers), IIE (the Institute of International Education), and CGS (the Council of Graduate Schools) has been concerned about the academic ability and personality of Indian students in the U.S. In 1962, a comprehensive proposal for a project was prepared by Dr. Olive I. Reddick, former director of USEFI, using the following objectives:

1. To help Indian students who plan to study in the U.S.
2. To assist U.S. universities in the selection of Indian students.
3. To cooperate with Indian universities and other institutions, when requested, in the selection and testing of their own candidates for admission to American institutions.
4. To construct, publish and sell standardised tests for use in advising and selection.

The organisation recommended to administer this project was USEFI. The staff was to include a substantial number of Americans as well as Indian personnel. Due to certain unforeseen circumstance this scheme did not materialise.

ADVISORY BUREAUX

In his proposal, Dr. W. L. Barnette, Consultant to USEFI in 1965, stressed the use of the student advisory bureaux in Indian universities and USIS offices throughout India. He emphasised the need for improved counselling literature, improved English language testing and the use of American consultants, seminars and other techniques for training personnel to be involved in the advising of Indian students proposing to study in the U.S.

In 1966, Dr. Samuel S. McNeely, Jr., also a Consultant to USEFI, presented a plan for evaluation, testing and advising. It would have taken at least four to five years to implement his plan to have ETA offices in all the regional offices of USEFI. He also recommended well-equipped libraries and use of certain tests. But the plan, though admirable, fell through for want of sufficient finances.

Education and World Affairs (EWA) is a private non-profit, educational organisation created in 1962, in the U.S. to study, analyse and assist in strengthening the international teaching, research and service dimensions of U.S. colleges and universities. In 1966, the Barnett-Mason Committee study sponsored by Education and World Affairs, made the following recommendations:

"The committee realises that such a common policy on international exchange programes will not be agreed upon by American universities overnight. It seems desirable, therefore, to propose a pilot project in one country where the needs and problems are formidable and capable of giving the pilot project a vigorous test—

but a country in which an administrative base already exists, thereby offering the project a reasonable promise of success. The country suggested for this pilot project is India."

It was further recommended that the 1962 proposal of USEFI, with some modifications, should serve as basis for this pilot project. The United States Education Foundation in India being the largest Fulbright operation in the world and having a broad base, was recommended for such a project. The project was called the Counselling, Evaluating and Testing Centre-India (CETC-India).

In August 1967, the arrival of Mr. Leo J. Sweeney, director of admissions and registrar at the university of Missouri at Kansas City, as consultant to ETA, instilled new life into the project. Mr Sweeney was not only convinced of the importance of such a project to all admission offices in the U.S., but was also determined to activise this project. Mr. Sweeney recommended to the USEFI director that there be "more reliance on American-trained Indians and less on U.S. personnel. This means beginning 1968-69 full-time U.S. consultants and/or staff will not be used within the ETA project, using those funds instead to engage a proportionately large staff of qualified Indians and to finance other ETA costs."

During his stay in India, Mr. Sweeney not only acted as a consultant to the project but also was in effect the first ETA officer of the foundation.

During his less than nine months stay in India, the Evaluation, Testing and Advising project has made remarkable progress. The strength of its staff has risen from one in January 1967 to a senior officer, six student advisers, and several general assistants.

THE OBJECTIVES

1. To create better understanding of the objectives of education in the U.S. with all that it implied for students from India.

2. To give guidance to students about U.S. universities, their admission procedures, their admission requirements and procurement of the visa, passport, etc.

3. To make students assess their credentials and achievements more realistically before seeking admission to an American institution.

4. To help students in the selection of universities with regard to their field of specialisation.

5. To do liaison work between the students from India interested in graduate study in the U.S. and the American universities.

6. To help the American institutions understand the Indian system of education and Indian universities.

7. To have a close contact with Indian University Guidance Bureaux to the extent they are concerned with guidance of Indian students for study in the U.S.

8. To promote better understanding of two educational systems (the Indian and the American) among all interested individuals, and private and government agencies concerned.

These objectives will serve two major purposes: (1) proper guidance will avoid frustration and bitterness on the part of the individuals who are inadequately prepared to achieve their educational goals in the United States and (2) will prevent valuable educational resources from being unutilised.

OTHER PLANS

In October 1967, USEFI conducted an all-India workshops on evaluation, testing and advising in New Delhi. This was attended by USEFI student advisers from Madras, Calcutta and New Delhi, USIS student counsellors from Bangalore and Hyderabad, and USEFI staff officers. Since then an informal on-the-job training-cum-workshop is held for each new student adviser joining USEFI. Also planned is an annual all-India ETA conference to serve not only USEFI student advisers and USIS student counsellors but also Indian university student information and guidance bureau and others involved in advising Indian students considering study abroad.

The ETA enjoys the institutional membership of NAFSA (National Association of Foreign Student Affairs) and AACRAO (the American Association of Collegiate Registrars and Admissions Officers),' the two organisations in the U.S. interested in foreign student affairs. The ETA office is in close contact with the Indian university guidance bureaux and sends its monthly newsletter to these bureaux. Also in March 1968, ETA office requested 527 American universities to send their catalogues to ETA offices and these bureaux.

With all its plans, aims and objectives, the ETA project is keenly alive to the needs of the students and is vital to the expansion of the frontiers of knowledge. It is implicit in its philosophy that only the capable and deserving candidates should be helped to study abroad who can later make worthwhile contribution to the development of the country.

(*Continued from page 11*)

author suggests cannot be takee until the regional languages are in fact made the media of instruction.

Dongerkery reiterates the well known arguments in favour of general education. The chapter on "Professional Education" deals mainly with what our universities are doing in the fields of law, medicine, engineering and technology, agriculture, commerce and education. The problems he wished to discuss are obviously too many. There are chapters on "Women in the Universities" and there are chapters on libraries and on adult education. The chapter on "Recent Trends in University Education" scrupulously avoids controversial issues which inevitably arise as one goes through it. The final chapter on "The Report of the Commission" contains brief summaries of some of the recommendations.

Written by an eminent educational administrator *University Education in India*, presents a fairly com-. prehensive picture of the scene called "higher education" One final word by way of a complaint. A chapter on the finances of the Indian universities and another on physical education would have made the work more or less complete.

SPORTS SCHOLARSHIPS TO SPOT OUT TALENT

By G. S. Sivia

INAUGURATING the 28th Annual Meeting of the IUSB Mr. Bhagwat Jha Azad, Union Minister of State for Education, announced a proposal, under consideration of the Ministry of Education, to institute sports scholarships for the students with a view to spotting out the sports talent in the country and giving it due encouragement. The meeting was held at the Indian Institute of Technology, Bombay, on May 5, 6, 1968.

He suggested for a re-thinking of the sports policy and emphasized the need to focus greater attention on the student community. He added that expenditure on foreign tours should be diverted to training and providing more facilities to the school and university sports talent.

Stressing the importance of physical fitness, including sports, he was confident that if adequate provision was made to implement a comprehensive programme in this field it would take the country out of the present student restiveness and improve national standards in sports.

Earlier, in his welcome address, Prof. S. K. Bose, President of the Board, read out four-point recommendations made by the sports advisory committee to improve quality of university sports which, later, in the meeting, the Sports Board endorsed.

According to these recommendations, a scheme to search sports talent in the country should be launched in the same way as the search for talent in science; talented sportsmen should be regarded as parallel to national scholars and should be assured of scholarships to pursue further studies; such sportsmen as represent universities should be accorded great measure of appreciation by offering freeships; certain basic facilities for implementing and developing a comprehensive programme of physical education in the universities should be provided; and industries for manufacturing sports goods to overcome the acute shortage of sports gear and equipment should be encouraged.

In the meeting, the Sport Board decided to hold coaching camps in athletics (men and women), volleyball (men and women) hockey (men), football and wrestling at the National Institute of Sports, Patiala, during the current summer vacation.

Henceforth, in addition to hockey and volleyball, tournaments in football and basketball (men) will also be played on 'league basis' at the interzonal level.

An invitation from the Australian Universities Sports Association, Sydney, inviting an Indian universities hockey team was accepted.

The sports calendar for the year 1968-69, as given below, was finalised by the meeting:

Sl. No.	Tournament	Venue	Date of commencement	Last date for receiving entries	Last date for receiving detailed entries
1.	Athletics (Men & Women) ..	Jabalpur	28 December	30 November	18 December
2.	Boxing	Bombay	8 January	9 December	30 December
3.	Chess	Madras	9 October	9 September	—
4.	Gymnastics & Malkhamb ..	IIT, Bombay	18 December	21 November	8 December
5.	Hockey (Women)	Kurukshetra	3 January	2 December	—
6.	Kho-Kho (M & W)	Poona	7 January	7 December	—
7.	Shooting	Panjab	12 December	12 November	—
8.	Squash Rackets	BHU	2 December	1 November	—
9.	Swimming (M & W) Diving & Water-Polo	Rajasthan	14 October	13 September	4 October
10.	Tennis (Women)	Andhra	2 December	2 November	—
11.	Volleyball (Women)	Gujarat	7 November	6 October	—
12.	Wrestling	Kurukshetra	14 November	13 October	4 November
13.	Weightlifting & Best Physique	Osmania	21 December	20 November	11 December
14.	Kabaddi (Women)	S.N.D.T./Shivaji	23 November	23 October	—

Note:— Detailed entries do not include eligibility details which are to be supplied to the organising universities as per rules.

GAMES ON TWO-ZONE BASIS

Sl. No.	Tournament	VENUE			Period of Tournament	Date of commencement of Final	Last date of receiving entries
		North Zone	South Zone	All-India Final			
1.	Basketball (Women)	IIT, Delhi	Indore	IIT, Delhi	Last week of November	30 November	23 October
2.	Kabaddi (Men)	Kanpur	J.N.K.V. Jabalpur	Kanpur	Last week of November	30 November	23 October
3.	Table Tennis (Men & Women) ..	N. Bengal	Karanatak	N. Bengal	First fortnight of October	14 October	1 September
4.	Tennis (Men)	Meerut	Sri Venkateswara	Sri Venkateswara	2-15 December	14 December	2 November

(*Continued on page 23*)

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Minimum Admission Qualifications (for both):

I.Sc. (Biology)/Intermediate in Agri. or Equivalent Examination having a minimum of 45% marks in aggregate in Intermediate and High School both or B.Sc. (Botany/Zoology) with 45% marks in aggregate in B.Sc. and High School.

Candidates with I.Sc. Maths. or B.Sc. (Maths/Physics) with the above restrictions of marks shall also be eligible for admission to B.Sc. Ag. & A.H.

4. FACULTY OF ENGINEERING AND TECHNOLOGY

1. Bachelor of Technology (Agricultural Engineering):-

Minimum Admission Qualifications:—

I.Sc. with Maths or Inter Agri. or equivalent having a minimum of 58% marks in aggregate and II Div. in High School; OR Higher Secondary with Science and Maths having a minimum of 65% marks in aggregate; OR B.Sc. with Agri./Maths having a minimum of 50% marks in aggregate and II Div. in High School.

2. Bachelor of Technology (Civil/Electrical/ Mechanical Engineering)

Minimum Admission Qualifications:

I.Sc. with Maths/Physics/Chemistry or equivalent examination having a minimum of 58% marks in aggregate and II Div. in High School with Maths OR Higher Secondary with Science and Maths having a minimum 65% marks in aggregate or B.Sc. (Physics/Chemistry/Maths) having a minimum of 50% marks in aggregate and II Div. in High School with Maths OR I.Sc. with Maths/Physics/Chemistry or equivalent having a minimum of 58% marks in aggregate and II Div. in High School with Maths and also a Diploma in Engineering with atleast 60% marks in aggregate.

NOTE

1. The condition of securing atleast 45% marks in High School Examination prescribed for admission to B.Sc.(Hons) Ag. & A.H., B.V.Sc. & A.H. and B. Tech. will be waived in cases of candidates having secured 63% marks in Intermediate or 60% marks in B.Sc. examination with 45% marks in Intermediate.

2. (*i*) As separate application forms have been prescribed for admission to different degree candidates should apply on separate form for admission to any course or degree. Therefore, while asking for form candidates should invariably mention the name of course(s) for which they want the application form(s).

(*ii*)*Applications duly completed in all respects including enclosures and copies of marksheets together with a Crossed Indian Postal Order worth Rs. 7·50 P. (as application fee for one or more than one application as the case may be) drawn in favour of the Comptroller of this University must reach the Registrar by June 25, 1968. Applications received after this date or without Postal Order or incomplete in any respect or illegible shall be rejcted.*

3. As the medium of instruction and examination at present is English candidates who have not passed their Intermediate examination with English need not apply for admission to any of the courses of this University.

5. Equivalent to Intermediate Science include:- (*a*) Pre-Professional Examination (*b*) First Year of the integrated 3-Year B.Sc. Course provided that it is a University Examination.

6. Minimum age for admission to Bachelor's degree programme is 16 years completed on Oct. 1968. No age restriction for Post-Graduate programmes.

7. **Some Noteworthy Features of the University:—**

It is a residential University and hostel accommodation is provided for all students. The University follows the pattern of Land Grant Universities of U.S.A with integrated teaching research and extension programmes, student advisory system to guide and help the students both in the College and Hostels, placement service for exploring employment opportunities, and special emphasis on practical training. Special stress is laid on high academic performance and good discipline. Only such students as are prepared to work hard and abide by the regulations of the University should seek admission. Liberal financial assistance in the form of Merit and Merit-cum-Means and Loan Scholarships, Students Aid and Loan Fund Assistance, Bursaries, Freeships etc. is available. Graduate tenching/research Assistantships of Rs. 200/- and Rs. 150/- p.m. are available to those Post-Graduate students who do not secure I.C.A.R. and other Fellowships. Facilities exist for earning part of their expenses through employment on Farm, Experiment Station, Laboratories and Offices, Cultivation, Poultry keeping etc.

REGISTRAR

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class Bachelor's degree in Chemical Engineering. Graduates in Mechanical Engineering, or Metallurgcial Engineering, Silicate or Fuel Technology, or equivalent qualification by virtue of examination as approved by All India Council of Technical Education, are also eligible, if they are sponsored.

For course at (3) : A Bachelor's Degree in Metallugrical Engineering with at least 50 per cent marks at the final examination or an equivalent qualification obtained by virtue of an examination, as recognised by the All India Council of Technical Education.

Experience in the relevant field will be considered a necessary qualification. Other things being equal, candidates sponsored by the Government, Quasi-Government, Educational or Industrial Organizations will be given preference.

Application forms can be had from the Asstt. Registrar (Academic) by enclosing a self addressed stamped (25 P) envelope of size 29×10 cm. and superscribed "ADMISSION POSTGRADUATE DIPLOMA COURSE". Completed application with P.O. for Rs. 5/- must reach the Asstt. Registrar (Academic) by *30th June 1968.*

Situations Vacant

UNIVERSITY OF DELHI

Applications are invited on the prescribed form for the following posts in the Departments of the University noted against each:

1. Economics:- One Reader in Econometrics and one reader in Economics.
2. Commerce:- One Reader.
3. Business Management and Industrial Administration :- One Lecturer, One Case-Analyst.
4. Chinese Studies:- One Lecturer in Chinese Politics,
5. Modern Indian Languages:- One Temporary Lecturer in Malayalam upto 14.3.1969.
6. Law:- One Research Fellow in Commercial Law.

The scales of pay of the posts are: 1. Readers: Rs. 700-50-1250, 2. Lecturers: Rs. 400-40-800-50-950, 3. Case-Analyst:- Rs. 400-40-800-50-950, 4. Research Fellow: Rs. 300/- fixed without allowances.

Dearness, City Compensatory and House Rent Allowances are admissibe according to the rules in force from time to time in the University.

1. GENERAL QUALIFICATIONS

(*a*) **For Readerships**

"Good academic record with first or high second class Master's Degree in the subject concerned followed by a Doctorate Degree or equivalent published work.

Independent published work (in addition to the published work referred to above) with at least five years teaching experience in Honours/Post-Graduate classes essential".

(*b*) **For Lectureship in Business Management and Industrial Administration**

"Good academic record with first or high second class Master's Degree in Economics, Statistics or Operations Research and familiarity with actual business problems and applications of operation research techniques thereon. Expperience of teaching through Case-method of discussions or experience of handilng business problems for about two years is desirable."

(*c*) For other Lectureships

"Good academlc record with first or high second class Master's Degree in the subject concerned.

Published work/advanced studies or experience of teaching degree classes for not less than two years."

(*d*) For Case-Analyst

"Good academic record with first or high second class Master's Degree in Economics, Business Management or Sociology. Experience of writing modern business cases is essential.

Published work/advanced studies or experience of teaching post-graduate classes in any of the fields mentioned above for two years is desirable."

(*e*) For Research Fellow in Commercial Law:

1. LL.M. Degree of a recognised University. 2. Evidence of aptitude for conducting research.

II. SPECIAL QUALIFICATIONS, WHEREVER NECESSARY:

1. For Readership in Econometrics:

"Preference will be given to candidates (*a*) holding a degree in mathematical statistics or in mathematics with a specialization in statistics, (*b*) research experience in some quantitative field of econometrics".

2. For Readership in Commerce:

(*i*) *Essential*: Specialisation in one or more branches of Business Administration.

(*ii*) *Desirable*: Knowledge of Company Law.

3. For Lectureship in Chinese Politics:

Adequate knowledge of the Chinese Language with competence to use the language for original work in the field of Chinese Politics.

The prescribed application forms may be had from the Registrar's office either personally or by sending a self-addressed envelope and stamps worth Rs. 0·90 Paise to cover postage.

Application on the prescribed form alongwith the attested copies of the Degrees should reach the Registrar, University of Delhi, Delhi-7, not later than the *20th June, 1968*.

Selected candidates will be required to produce the documents in original relating to their qualifications and experience etc. before the offer is made to them.

Note: It will be open to the University to consider the name of suitable candidates who may not have applied. Relaxation of qualifications may be made in exceptional cases. Canvassing in any form by or on behalf of the candidate will disqualify.

Registrar

UNIVERSITY OF POONA

Applications are invited for the following teaching posts in the various Departments of the University:—

1. Department of Mathematics and Statistics:-One Reader in Mathematics, Two Lecturers in Mathematics.

2. Department of Law :- One Lecturer.

3. Department of Linguistics :- One Reader in Modern Descriptive Linguistics, One Reader in Phonetics and Linguistic Geography, One Lecturer in Anthropological Linguistics, One Research Assistant.

4. Department of Physics:-One Research Assistant.

5. Department of Marathi:-One Research Assistant.

6. Department of Anthropology:-One Research Assistant.

7. Department of Experimental Psychology :- One Research Assistant, One Demonstrator.

8. Department of Politics and Public Administration:-One Research Assistant.

Detailed information regarding qualifications, pay scale etc. will be supplied along with the prescribed application form on receipt of a self-addressed envelope (23 cm × 10 cm) bearing postal stamps worth Rs. 0·50 paise to cover the postage. Applications should reach the University Office not later than Saturday, the *22nd of June, 1968*.

D. K. GARDE,
Offg. Registrar

Ganeshkhind,
Poona-7.
May 21, 1968.
Vaishakha 31, 1890.

THE UNIVERSITY OF JAMMU AND KASHMIR
Kashmir Division

Notice

Applications to reach the undersigned on or before June 25, 1968 are invited for the post of Reader in History in the grade of Rs. 700-50-1250 at Srinagar.

For details apply sending crossed postal order for Rs. 6/- (cashable at Srinagar Post Office) in favour of the Joint Registrar, Jammu and Kashmir University, Kashmir Division, Srinagar.

(K. K. GUPTA)
Joint Registrar

UNIVERSITY OF DELHI

Applications are invited on the prescribed form for the post of a Professor in the Centre of Advanced Study in the Department of Zoology of the University in the scale of pay of Rs. 1100-50-1300-60-1600.

Dearness, City Compensatory and House Rent Allowances admissible according to the University rules in force from time to time.

Qualifications:

"A Scholar of eminence"

Independent published work of high standard and experience of teaching Post-graduate classes and guiding research for a considerable period desirable"

Specialisation required: ENDOCRINOLOGY.

The prescribed application form may be had from the Registrar's office either personally or by sending a self addressed envelope and stamps with Re. 0·90 Paise to cover postage.

Application on the prescribed form alongwith the attested copies of the degrees should reach the Registrar, University of Delhi, Delhi-7, not later than *15th June, 1968*.

Selected candidate will be required to produce the documents in original relating to his qualifications and exerience etc. before the offer is made him.

Note:-It will be open to the University to consider the names of suitable candidates who may not have applied. Relaxation of any of the qualifications may be made in exceptional cases. Canvassing in any form or on behalf of the candidate will disqualify.

SITUATIONS VACANT ABROAD

University of Manchester invites applications for the posts of assistant keeper in geology and assistant keeper in ethnology up to June 29, 1968.

The Queen's University of Belfast invites applications for the post of lectureship or an assistant lectureship in architecture in the department of architecture and planning, lectureship in mechanical engineering and for the chair of computer science in the school of physics and applied mathematics up to June 21, 1968.

University of Newcastle-Upon-Tyne invites applications for the second chair in computing laboratory up to August 31, 1968.

University of Hong Kong invites applications for the posts of assistant bursar up to June 30, 1968 and assistant estates and maintenaEce officer up to June 22, 1968.

University of Malaya invites applitions for a newsly-created chair in chemistry up to June 30, 1968.

(*Continued on page 23 col. 3*)

KARNATAK UNIVERSITY
DHARWAR-3

Teaching posts in the University post-graduate Departments

Applications (six copies in the prescribed form available from the University Office on payment of Rs. 3/- either in cash or by postal order) are invited from persons of Indian domicile for the below mentioned posts in the University Departments.

Readers: (Rs. 700-50-1250 with usual allowances). One in Kannada (Brahmanical literature), One in Statistics, One in Bio-Chemistry, One in Solid-State Physics, One in Nuclear Physics ,One in Electronics, One in Economic Geology, One in Sociology, One in Philosophy, One inP ure Mathematics,One in Applied Mathematics, One in Sanskrit, One in Botany.

Qualifications:

A Doctorate degree with a Ist Class in at least one of the degree examinations with teaching experience of at least 5 years for post-graduate classes.

Lecturers: (Rs. 400-40-800-50-950 with usual allowances) One in Sociology, One in Economics, One in Philosophy, One in Pure Mathematics,One in Applied Mathematics, One in Geography, One in Cost Accountancy.

Qualifications:

A Master's degree with first class in at least one of the degree examinations, with at least 3 years teaching (post-graduate or under-graduate) and/or research experience.

Candidates for the posts of Readers should have the capacity to carry out independent research and guide students for research degrees.

In suitable cases, the Syndicate on the recommendation of the Selection Committee, may relax the conditions regarding the prescribed qualifications.

Persons will be appointed to those posts on probation for one or two years according to the rules of the University and will then be continued on a contract or permanent basis, if the work during the probationary period is satisfactory.

Applications should be sent by Registered post A.D. so as to reach the Registrar on or before *15th June 1968*.

Interview at the cost of the candidates.

By Order,
S. S. WODEYAR
Registrar

UNIVERSITY OF JODHPUR
JODHPUR

Advertisement No. 1/68

Applications are invited for the undermentioned posts on the prescribed form obtainable from the Registrar for which a crossed Indian Postal order for Rs. 2/- be sent along with a self-addressed envelope (9″×4″) bearing postage stamp of 25 paise.

The application, complete in all respects and accompanied by a crossed Indian Postal Order worth Rs. 5/- for posts at Serial Nos. I to V and Rs. 2/- for he rest, in favour of the Registrar, University of Jodhpur, Jodhpur, should reach the undersigned on or before the 10th June, 1968.

I. Professor of English (1 permanent)
Scale of Pay: Rs. 1100-50-1300-60-1600.

Qualifications:

I. **Essential**: (*a*) A first or high second class Master's degree of an Indian University or equivalent qualification of a foreign University in the subject. (*b*) Either a research degree of a doctorate standard or published work of a high standard. (*c*) Teaching experience at a University or College of about 10 years with at least five years of Post-graduate work and experience of guiding research. **II. Desirable**: Modern English usage and principles of Criticism or Modern Prose & Poetry, or American Literature, or English Drama, or Comparative Aesthetics (oriental and occidental).

Age: Not above 55 years.

II. Readers in Hindi: (1 permanent), History (1 permanent), Chemistry (1 temporary), Mathematics (1 permanent), Botany (1 permanent).

Scale of Pay: Rs. 700-50-1250

Qualifications:

I **Essential**. (*a*) A first or high second class Master's *d*egree of an Indian University or equivalent qualification of a foreign University in the subject concerned. (*b*) A research *d*egree of a Doctorate standard or some published work. (*c*) Experience of teaching Postgraduate classes for at least 5 years. II **Desirable**: Specialisation in the following branches:-

1. **For Hindi** (*a*) Oriental Linguistics, or Pali Prakrit and Apabhransha or old Hindi Poetry, or Mediaeval Hindi Poetry. (*b*) Good background of Sanskrit. 2. **For History**: History & Culture of Rajasthan or Modern Indian History or Ancient Indian History and Culture. 3. **For Chemistry**: Physical or Organic or Inorganic. 4. **For Mathematics**: Modern Algebra, Functional Analysis, Special functions, Statistics, Mathematical Physics, Quantum Mechanics, Magneto-hydrodynamics. 5. **For Botany**: Plant Ecology, or Plant Physiology, or Angiosperms, or Microbiology, or Plant Genetics, or paleobotany.

III. Readers in: Mechanical Engineering (1 permanent), Electrical Engineering (1 temporary).
Scale of Pay: Rs. 700-50-1250.

Qualifications:

I. **Essential**: (*a*) A first or high second class Bachelor's degree of an Indian University or equivalent qualification of a Foreign University in the subject concerned (*b*) Postgraduate degree and/or research experience desirable. (*c*) Experience of teaching and/or professional experience for six years. II. **Desirable**: 1. **For Mechanical Engineering**: Post-graduate degree and/or published research experience in Heat, Power Engineering (Thermoscience) 2. **For Electrical Engineering**: Experience in transmission and distribution of electric power, switch gear and Protection or in industrial electronics and control systems.

IV. Lecturers in : English (1 permanent) Hindi (2 permanent) Sanskrit (4 permanent) History (1 permanent) and 1 temporary) Chemistry (1 permanent and 4 temporary).

Scale of Pay: Rs. 400-40-800-50-950.

Qualifications:

I. **Essential**: A first class Master's degree in the subject or second class Master's degree with three years experience of teaching degree classes. II. **Desirable** Specialisation in the following branches:— 1. **For Hindi**: Apabhransha Language and Literature, Drama and Dramaturgy; or Bhartiya and Western Poetics and Prosody (Pingal Shastra); or Textual Critsicim; or Folk Literature. 2. **For Sanskrit** Acharya in Darshan (Indian Philosophy, or M.A. with Darshan Group for one post.

V. Lecturers in: Civil Engineering (4 temporary) Mechanical Engineering (5 temporary), Electrical Engineering (1 temporary), Structural Engineering (1 permanent and 1 temporary).

Scale of Pay: Rs. 400-40-800-50-950. (with a minimum pay of Rs. 440/- p.m. in the scale).

Qualifications:

I. **Essential**: (*a*) A first or high second class Bachelor's degree of an Indian University or equivalent qualification of a foreign University in the subject concerned. (*b*) Candidates with Post-graduate degree and research experience will be preferred. (*c*) Experience of teaching or practical work for two years. II. **Desirable** 1. **For Civil Engineering**: Specialisation in Soil Engineering for two posts. 2. **For Mechanical Engineering** Post graduate degree and research experience in Heat, Power Engineering (Thermoscience), Machine design and Production Engineering.

Note: (1) For the permanent post in Structural Engineering the Degree can be either in Civil Engineering or in Architecture.

(2) Diploma Examination in Architecture of the Government of Bombay and Maharashtra is equivalent to Bachelor's Degree in Architecture.

VI. Catrographer in Geography (1 permanent).

Scale of Pay: Rs. 300-25-500.

Qualifications:

Second Class Master's Degree or equivalent Honours Degree in Geography. About two years experience of cartographic and drawing work in a map office or in a geogrpahy laboratory in a University/Institution. Experience of data collection and processing work for the preparation of maps and diagrams by different methods. Must be good in map drawing, evidence of which must be produced at the time of interview.

VII. Shorthand and Typewriting Instructor: (1 permanent)

Scale of Pay: Rs. 200-10-280-EB-15-400.

Qualifications:

I. Essential- Atleast Second class Graduate in Commerce with Steno-typing in Intermediate/P.U.C. II. **Desirable**: Knowledge of both English and Hindi Steno-typing.

Note: (1) Those who had already applied in response to advertisements

No. 1/67 and 2/67 for the following posts and had also paid the fee of Rs. 5/- need not remit the fee again, but they are advised to intimate, on plain paper, if they wish to be considered and may also inform the undersigned about any change of their qualifications etc. (*a*) Professor of English. (*b*) Readers in Botany Hindi and History. (*c*) Lecturers in Hindi, English, History and Sanskrit. (*d*) Lecturers in Mechanical Engineering and Civil Engieering.

(2) The number of vacancies given in this advertisement is subject to variation without notice.

All posts carry allowances as may be admissible under University rules from time to time. In addition, permanent posts carry benefits of University P.F.

Working knowledge of Hindi for all the posts is necessary. Qualification, age, etc., mentioned above may be relaxed in cases of candidates who are otherwise found suitable. Higher starting salary is possible to exceptionally qualified candidates. Persons already in service should apply through proper channel. Candidates, if called, will have to appear for interview at their own cost.

S. CHAKRABARTI
Registrar

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI
ADVERTISEMENT

No. 1 /68-69 Dated May 8, 1968

Applications accompanied by a fee (not refundable) through a crossed postal order of Rs. 7·50 payable to the Registrar, BITS at Pilani Post Office. are invited for the following posts Those who have applied for the posts in response to the previous advertisements need not apply.

1. **Professors**—Rs. 1100-50-1300-60-1600/**Associate Professors**—**Rs.** 1100-50-1300.
   - (*a*) Mechanical Engineering —3
   - (*b*) Electrical Engineering —1
   - (*c*) Chemical Engineering —1
   - (*d*) Physics —1
2. **Assistant Professors**—**Rs.** 700-50-1250.
   - (*a*) Electrical Engineering —3
   - (*b*) Chemical Engineering —2
   - (*c*) Business Administration —1
   - (*d*) English Literature —1
   - (*e*) Pharmacy —1
   - (*f*) Physics —2
3. **Lecturers**—**Rs.** 400-40-800-50-950.
   - (*a*) Political Science —1
   - (*b*) Physics —4
   - (*c*) Pharmacy —1

Qualifications:

Candidates for Engineering posts should have a good Postgraduate degree in the concerned subject, preferably Ph.D. For Physics the candidate should have a good Ph. D. Degree. For Pharmacy, Business Administration and English Literature candidates should have good Postgraduate Degree preferably Doctorate. They should have at least 7 years teaching and research/ industrial experience for Professors/ Associate Professors posts, and at least 5 years teaching and research experience for the Assistant Professors posts, and have published papers. For Lecturers posts, good Post-graduate Degree, preferably Doctorate and teaching experience of University classes for two years.

Specialisation Preferred:

Mechanical Engineering posts: (*a*) Production Planning and Control/Metal Cutting/Products System Design (*b*) Mechanical Design—Vibration/Instrumentation (*c*) Turbo Machinery/Gas Dynamics/Heat Transfer.

Electrical Engineering posts: Power System/Electrical Machines/Computer Technology/Control System/Industrial Electronics/Materials Science.

Chemical Engineering posts: Process Control—Dynamics/Materials Science/ Thermo Dynamics/Equipment Design and Fabrication.

Physics posts: Theoretical Physics/ Spectroscopy/Solid State Physics/ Nuclear Physics.

Pharmacy posts: Pharmaceutical Micro—Biology/Bio — Chemistry/Industrial Fermentation/Manufacturing/Formulative/Dispensing Pharmacy.

Political Science posts: International Relations.

Posts are permanent and carry dearness allowance as per rules-Candidates appointed will be on pro. bation for a period of two years. They will be entitled to Provident Fund benefits on confirmation. Higher starting salary in the grade may be given in the case of candidates of exceptional qualifications and experience. Selected candidates among applicants in India will be interviewed in India and paid travelling allowance as per rules. Applicants from U.S.A. will be interviewed at Massachussets Institute of Technology. Appointments can also be made on contract basis of 3 to 5 years.

Applicants should give on plain paper full particulars of age,qualifications experience, salary drawn, names of referees under whom they have worked and copies of testimonials. Applications of candidates in service should be sent through proper channel. All applications should be addressed to the Registrar, Birla Institute of Technology & Science, Pilani, so as to reach by the *15th June, 1968.*

K. P. GOVIL
Registrar

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY
P.O.I.I.T., Powai, Bombay-76.

Advertisement No. 597/68

Applications for the following permanent posts are invited on or before *30th June 1968* in the prescribed form obtainable from the Registrar, Indian Institute of Technology, P. O. I.I.T., Powai, Bombay-76, on request accompained by self addressed envelop (23 cm. × 10 cms). Candidate from abroad may apply on plain paper. Candiates employed in Government/Semi Government Organisation or Educational Institution must apply through proper channel.

1. **TRAINING & PLACEMENT OFFICER**:

(*i*) Scale of pay: Rs. 1100-50-1300-60-1600.

Allowances:

(*ii*) D. A. : Within the range of Rs. 100 to Rs. 140/-

(*iii*) C.C.A. : 8% of basic pay subject to a maximum of Rs. 75/- p.m.

(*iv*) H. R. A. : As per rules, if no accommodation is provided.

(*v*) Age limit: Preferably above 40 years.

(*vi*) **Qualifications & Experience**:

(*i*) A good degree in engineering with 10 years' experience in teaching/training in industry. Administrative experience in large concerns would be desirable.

(*ii*) The applicant should have previous experience in maintaining contact with industrial organisations, State and Central Government Departments and have experience in organising practical training of Engineers and Engineering students particularly in maintaining employment data and following up records.

2. **ASSISTANT PROFESSOR**:

(*i*) Scale of Pay: Rs. 700-50-1250.

(*ii*) Allowances: As at (1) above.

(*iii*) Age limit : Preferably above 30 years.

(*iv*) **Qualifications & Experience**:

(*a*) Department of Electrical Engineering:

(*a*) First Class Bachelor s degree in Electrical Engineer ing or Tel-Coommunications Engg. with a post-graduate degree in Electrical or Electronic Engineering or Technology. Five years experience in design, planning, construction, research and/or teaching in any of the following fields (1) Newwork theory (2) Power System Protection and/or Power System Control Desirable: Doctorate degree and membership of a professional body.

(*b*) Department of Mathematics:

Good Academic career with a Ph. D. in Mathematics/Statistcs. At least 5 years experience of teaching graduate classes. Preference will be given to a candidate who has specialised in any of the following fields: Analysis, Algebra, Topology, Numerical Analysis, Theory of Probability, Elasticity, Fluid, Mechanics.

Experience of guiding research work and independent research publications would be desirable.

Note:- In the case of (*a*) and (*b*) above, Candidate having less experience of teaching and research may be considered for Lecturer's posts in the scale of Rs. 400-40-800-40-950.

3. **ASSISTANT ENGINEER (Electrical)**

(*i*) Scale of Pay: Rs. 350-25-500-30-590 EB-30-800-EB-30-830-35-900.

(*ii*) Allowances: As at (1) above.

(*iii*) Age limit: Preferably between 35 to 40 years.

(*iv*) **Qualifications & Experiences** : Graduate in Electrical Engineering from a recognised university Minimum experience of 10 years in design, erection and

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(*Continued from page 16*)

GAMES ON FOUR-ZONE BASIS

Sl. No.	Tournament	VENUE				All-India Final	Period of tournament	Date of commencement of final	Last date for receiving entries
		North Zone	East Zone	South Zone	West Zone				
1.	Badminton (Men & Women)	Meerut	BHU	Nagpur	IIT, Bombay	Nagpur	First fortnight of October	15 October	1 September
2.	*Basketball (Men)	IIT, Kanpur	IIT, Kharagpur	Mysore	Indore	Indore	Last week of November	30 November (Last match of Interzonals)	23 October
3.	Cricket	Delhi	Bhagalpur	Madras	**Baroda	†Delhi	20 Dec. to 15 January	11 January	20 November
4.	*Football	Aligarh	Patna	Kerala	Vikram	Vikram	First fortnight of October	13 October Last match of Interzonals)	1 Spetember
5.	*Hockey (Men)	Punjabi	Utkal	Annamalai	Marathwada	Annamalai	First fortnight of Jan.	15 January (Last match of Interzonals)	1 December
6.	*Volleyball (Men)	Aligarh	Ravishankar	Madurai	Sardar Patel	Ravi-Shankar	First fortnight of November	15 November (Last match of Interzonals)	1 October

* *Interzonals in these tournaments will be played on league basis.*

** *Baroda University will act as organising university and necessary details for conducting the tournament will be worked out by the Baroda University.* (One match Sardar Pa-tel, one match Gujarat, one match South Gujarat).

†(Including Vizzy Trophy)

JOB INDEX

Subject	*Post*	*University*
English	Professor	Jodhpur
Mechanical Engg.	,,	Birla Instt. of Technology & Sc.
Electrical ,,	,,	,,
Chemical ,,	,,	,,
Physics ,,	,,	,,
Electrical Engg.	Asstt. Professor	,,
Business Admn.	,,	,,
Pharmacy	,,	,,
Chemical Engg.	,,	,,
English Literature	,,	,,
Physics	,,	,,
Kannada	Readers	Karnatak
Statistics	,,	
Bio-chemistry	,,	,,
Nuclear Physics	,,	,,
Electronics	,,	,,
Economic Geology	,,	,,
Sociology	,,	,,
Philosophy	,,	,,
Pure Mathematics	,,	,,
Applied ,,	,,	,,
Sanskrit	,,	,,
Botany	,,	,,
Hindi	,,	,,
History	,,	,,
Chemistry	,,	,,
Mech. & Elec. Engg.	,,	,,
Sociology	Lecturer	Karnatak
Economics	,,	,,
Philosophy	,,	,,
Pure Mathematics	,,	,,
Applied ,,	,,	,,
Geography	,,	,,
Cost Accountancy	,,	,,
English	Lecturer	Jodhpur
Hindi	,,	
Sanskrit	,,	,,
History	,,	,,
Chemistry	,,	,,
Civil Engg.	,,	,,
Mechanical Engg.	,,	,,
Electrical ,,	,,	,,
Structural	,,	,,
Political Science	,,	Birla Instt. of Technology & Sc.
Physics	,,	,,
Pharmacy	,,	,,

(*Contd. from page 22 Col. 3*)

maintenance of H. T. and L. T. Sub-stations and distribution Mains, Pumping Stations, sewarage disposal plant. Repairs and maintenance of Transformers, Switchgear, Electric Motors, Pumping Sets, execution of Industrial and domestic wiring and general maintenance.

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(*Contd. from page 20 Col. 3*)

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REPORT OF A SURVEY OF GRADUATES OF INDIAN INSTITUTES OF TECHNOLOGY IN INDIA AND ABROAD

REPORT ON THE EMPLOYMENT PATTERN OF ENGINEERING GRADUATES OF UNIVERSITY OF ROORKEE, 1966 AND 1967

Edited and printed by Dr Amrik Singh on behalf of the Inter-University Board of India and Ceylon and printed at New India Press, New Delhi. (Teles : 276602, 273037).

REPORT OF A SURVEY OF GRADUATES OF INDIAN INSTITUTES OF TECHNOLOGY IN INDIA AND ABROAD

REPORT ON THE EMPLOYMENT PATTERN OF ENGINEERING GRADUATES OF UNIVERSITY OF ROORKEE, 1966 AND 1967

In this supplement to University News, two important documents are being brought to the notice of our readers. The first is the Report of Survey of Graduates of Indian Institutes of Technology in India and Abroad. The second document deals with the Employment Pattern of Engineering Graduates of Roorkee University, 1966 and 1967. Though this document relates to graduates of only one university, it is relevant to the discussion on surplus engineers in which the country has engaged in recent months.

No attempt has been made to paraphrase what the two documents say. Instead, copious extracts have been given from both the documents. The language used is that of the reports. Wherever it was necessary to link the running matter, certain sentences have been added in parentheses.

We very much hope that a study of these two documents would be found useful by our readers.

—Editor

Report of a Survey of Graduates of Indian Institutes of Technology in India and Abroad.

OBJECTIVES AND SCOPE

THIS Report deals with the pattern of utilisation of engineering graduates who graduated from the Indian Institutes of Technology at Kharagpur, Bombay, Madras and Kanpur between 1961 and 1965. A study on the utilisation of a category of high level manpower such as graduate engineers serves as a sensitive barometer which reflects, among other things, the trend in demand for such personnel, the types and sectors of activities which they enter and the ability and capacity of the economy to utilise them properly. They way in which the economy responds to the availability of engineers will also serve as a useful instrument for identifying developing shortages and surpluses. During the last fifteen years many studies have been made on the pattern of employment and utilisation of graduates from institutions of higher learning.

The present study is perhaps the first attempt to survey in a comprehensive manner the pattern of employment of engineers from all the Institutes of Technology which form a class by themselves.

The Indian Institutes of Technology occupy a pre-eminent position in the field of higher engineering education in India. It is a measure of the importance which the country attaches to them that they enjoy the unique distinction of having been declared by Parliament as "institutions of national importance." These Institutes have been established with substantial foreign aid from UNESCO, U.S.S.R., West Germany, U.S.A. and U.K. and have become the pace-setters in the field of engineering education in the country. Besides providing facilities for under-graduate education, they also serve as centres for post-graduate education and research. Admmission to the under-graduate courses is by means of an all-India competitive examination which attracts a large number of school-leavers. For example, in 1964, the number of applicants was 24,858 and the number finally selected for admission 1,625. It is true that the graduates of these Institutes constitute only a very small part of the total pool of engineering graduates coming out of colleges in the country, but despite this, in view of the importance attached to the IITs, it is a matter of great interest to know the way in which the graduates of these Institutes are being utilised.

This study was taken up on the ground that a study on their utilisation and other characteristics will be an exercise as useful and informative as it is essential.

Objectives of the Study: In very broad and general terms, the objective of the study is to find out how the graduates of the Indian Institutes of

Technology are being utilised in the labour market. Within the above broad framework, the objectives, more specifically formulated, are to ascertain:

(*i*) the extent of unemployment among IIT graduates; (*ii*) the delay in getting first employment; (*iii*) the proportion who go for higher education or training; (*iv*) the type of activity of graduates in their first and present employment; (*v*) the nature of the employing agency of the graduates; (*vi*) the level of emoluments of the graduates; and (*vii*) the number who have gone abroad showing the purposes for which they are abroad, the duration of stay abroad, etc.

All graduates in engineering, who graduated from the Indian Institutes of Technology at Kharagpur, Bombay, Madras and Kanpur during 1961, 1962, 1963, 1964 and 1965, were covered by the Survey. The IIT at Delhi was not included as its first batch of graduates came out only in 1966.

The coverage is limited to those who graduated during the Third Plan. The IIT, Kharagpur, was established in 1951 and batches of its guaduates have been entering the labour market since 1956. But in the remaining three IITs, the first batch of graduates came out only during the Third Plan: in 1962 from IIT, Bombay, in 1964, from IIT, Madras, and in 1965 from IIT, Kanpur. Moreover, it was only during the Third Plan, and that too during the latter half of it, that a point of numerical balance between demand for and supply of graduate engineers was found to be within reach and doubts began to be voiced about the capacity of the economy to gainfully absorb all the new graduate engineers.

The total outturn from the four Institutes of Technology during the period covered by the Survey is 2,292. The addresses of 2,164 graduates were obtained from the Directors of the respective Institutes and the questionnaires were mailed to them during September 1966. The following *table* gives the distribution of the 2,164 graduates who were addressed by institution and year of graduation.

The total outturn during the five years covered by the Survey is 2,292. The Institute sent questionnaires to 2,164 of them whose addresses were available and replies were received from 1,041 or 48·1% of 2,164.

The percentage of response has steadily increased from the earlier batches to the later batches with one exception. For example, whereas only 39·6 per cent of the 1961 batch responded, this increased to 41·6 per cent for the 1961 batch, 53·6 per cent for the 1963 batch and 59·1 per cent for the 1964 batch. The response for the 1965 batch showed a decline to 45·6 per cent primarily due to the unexexpectedly low response from the batch from IIT, Bombay. The highest response for any Institute has been from the IIT, Kanpur (62%); this is not surprising as only the 1965 batch from this Institute has been covered. The lowest response is from IIT, Bombay (45·4%).

The response from those abroad was substantially better than the general level of response. From various sources, 338 graduate were known to be abroad and 278 of them, whose addresses were available, were addressed. Replies were received from 196 or 68·3 per cent of them as compared to the overall response rate of 48·1 per cent.

NATURE OF ACTIVITY AFTER GRADUATION

Classification of Status: The respondents to the Survey range from those who graduated in 1961 to those who graduated in 1965. Information was collected on the nature of their activity and designation of post in first employment after graduation and on the nature of their activity at the time of the Survey. From the data thus obtained, in most cases it became possible to ascertain the status of the respondent in relation to the labour market, the type of his economic activity and the nature of the employing agency.

In relation to the labour market the respondents' status has been classified under one of the following groups:

Distribution of Graduates covered in the Survey by Institution and Year of Graduation

IIT	1961	1962	1963	1964	1965	Total
Kharagpur	288 (100)	348 (83)	310 (81)	218 (51)	265 (41)	1,429 (66)
Bombay	—	70 (17)	74 (19)	115 (27)	197 (30)	456 (21)
Madras	—	—	—	92 (22)	121 (19)	213 (10)
Kanpur	—	—	—	—	66 (10)	66 (3)
Total	288 (100)	418 (100)	384 (100)	425 (100)	649 (100)	2,164 (100)

(*Note*: Figures within brackets are percentages.)

The total outturn represents the broad spectrum of specialities which are being offered in the engineering colleges in our country, besides a few such as Naval Architecture, Agricultural Engineering, etc., which are offered only in a few of the institutions in the country.

(*a*) Post-graduate student; (*b*) Unemployed; (*c*) Trainee in Industry; and (*d*) Regular employee.

Higher Studies: Those pursuing higher studies after graduation are outside the labour market. On the average, about 15·5 per cent of the graduates

from every batch go for higher studies before they enter any other type of activity; in a minority of cases the entry into higher studies is after a brief spell of employment. Out of a total of 1,041 respondents, 161 had continued their further education without a break after their graduation. During the three years from 1961 to 1963, the proportion of those going for higher studies before taking up any other activity hardly varied. It hovered between 12·6 per cent and 13·2 per cent. It increased to 18·3 per cent for the 1964 batch and came down marginally to 17·2 per cent for the 1965 batch. The increasing proportion of engineers going for higher studies may have been caused by a combination of factors such as the slackening of demand for engineers after 1963, the progressive increase in the facilities for post-graduate education in the country and the increasing extent to which the graduates of IIT are going abroad for higher studies in recent years.

The proportions of those going for higher studies as their first activity after graduation among the various specialities represented by the respondents show considerable variations. At one end of the scale stand Chemical Engineers with 34·8 per cent going for higher education and at the other end are mining engineers with only 4·8 per cent in higher education. The corresponding percentage in respect of Electronics and Electrical Communication Engineers, Metallurgists and Geologists and Geophysicists is about 20 per cent and it is lower than 20 per cent for other specialities. Institute-wise, those in higher education constitute 12·2 per cent of the outturn of Kharagpur, 19·8 per cent of Bombay, 23·2 per cent of Madras and 26·8 per cent of Kanpur.

The speciality-wise analysis shows that 33 per cent of the Chemical Engineers are in higher studies followed by 24 per cent of Metallurgists and 21 per cent of Naval Architects. Mining Engineers with 7·1 per cent and Geologists and Geophysicists with 6·6 per cent are at the bottom of the scale.

An importat characteristic disclosed by the Survey is that as high as 58 per cent of those in higher studies at the time of the Survey are abroad.

The proportion of those abroad among post-graduate students varies from batch to batch and on the average 58 per cent of those in higher education are abroad.

Out of the 37 post-graduate Chemical engineering students, 21 or 57 per cent were abroad. The relevant figures for other specialities are 54·5 per cent (18 out of 33) for Electrical, and Electronics and Electrical Communication Engineers, 59·1 per cent (13 out of 22) for Mechanical Engineers, 59 per cent (16 out of 27) for Metallurgists and 47·6 per cent (10 out of 21) for Civil Engineers. Among the 89 post-graduate students abroad, 32 were from Bombay, 40 from Kharagpur, 10 from Madras and seven from Kanpur. In the total of post-graduate students from an institution, those studying abroad from Kharagpur constituted 59 per cent and from Madras constituted 41·7 per cent and those from Kanpur 77·8 per cent and Bombay 61·5 per cent.

Unemployment: Excluding 153 respondents who, at the time of the Survey, were in higher studies, the remainder, viz., 888, can be deemed to be in the labour force. Out of them 27 or three per cent reported themselves as unemployed. Nine of them are from the 1965 batch, 12 from the 1964 batch, four from the 1963 batch and one each from the 1962 and 1961 batches. Four respondents, all of them from the 1965 batch, never had any employment after their graduation. Two of these four are qualified in Geology and Geophysics and one each in Electronics and Metallurgy; three are graduates of IIT, Kharagpur and one is from IIT, Madras. The rest of them did get some employment or training position after their graduation but were without work at the time of the Survey. Civil Engineers, numbering seven or 3·4 per cent of the outturn in that speciality, constitute the largest group among the unemployed. Four Mining Engineers and two Geologists and Geophysicists were unemployed; but they constitute 9·6 per cent and 13·4 per cent respectively of the total outturn in the respective specialities. The proportion of unemployed in these specialities is high to the point of being alarming. These are also the specialities in respect of which we have indications from other sources also about a slackening of demand in the labour market. But the numbers involved are so small that any generalisation based exclusively thereon is fraught with dangers. The overall level of unemployment among the respondents, both numerically as well as in terms of percentage, is rather low and is no more than can be considered as compatible with a situation of full employment. The trend indicated by the fact that 21 out of the 27 unemployed are from the 1964 and 1965 batches, is however disturbing and adds to the growing evidence that during the second half of the Third Plan, there has been a marked slackening of demand for engineers.

Delay in getting First Employment: Excluding those who were pursuing higher studies or were unemployed, this point was of relevance to 874 respondents, out of whom 864 gave some comment or other regarding delay in getting first employment. The durations of delay were divided into: (*i*) delay of less than three months, in which are included respondents reporting no delay also; (*ii*) delay of three to six months; and (*iii*) delay of more than six months.

About 85 per cent of the graduates of 1961, 1962 and 1963 reported that there was no delay in getting first employment. But this trend registered a sharp decline subsequently and about 25-33 per cent of 1964 and 1965 batches have reported some delay in getting first employment. The data also disclose a tendency for the duration of delay to lengthen; whereas in 1961 only three per cent of the batch had to wait for more than six months for their first job, this proportion rose to 15 per cent of the batch in

1965. The spurt in the lengthening of the waiting period started with the 1963 batch and is probably a combined result of the slowing down of economic development after the initial years of the Third Plan and of the rapid increase in the outturn of engineering graduates during the Third Plan.

As far speciality-wise analysis of delay in getting first employment, 89·4 per cent of Agricultural Engineers reported no delay or delays of less than three months only and even the balance experienced delay of only less than six months. The fact that 84·9 per cent of Civil Engineers reported no delay or delay of less than three months only, goes against the general impression that Civil Engineers compared to others have been finding it, of late, more difficult in getting themselves absorbed; this may also reflect the advantage that the graduates of IITs enjoy in the labour market. The other categories reporting high proportion of no delay or delay of less than three months are mechanical egineers (78·1%), mining engineers (87·5), electrical, and electronics and electrical communication engineers (75·4%), naval architects (68·5%) and chemical engineers (64·4%). Twenty-one per cent of the Naval Architects, 16·4 per cent of Chemical Engineers and 13·3 per cent of Architects experienced delay of over six months.

An institution-wise analysis of delay in obtaining first employment: the proportion of those who reported no delay or delay of less than three months was 80·0 per cent among graduates from IIT, Kharagpur, 73·5 per cent for Bombay, 64·7 per cent for Madras and 79·3 per cent for Kanpur. Those who had delay of over six months constituted 8·6 per cent among the graduates of Kharagpur, 7·2 per cent of Bombay, 16·5 per cent of Madras and 17·3 per cent of Kanpur.

Graduates undergoing Training: On the average, 84 per cent of the graduates had either a regular job or a training place in industry as their first activity after graduation. Those undergoing training from out of the five batches constituted a proportion ranging from 29·9 per cent to 36·5 per cent and those having regular jobs from 44·2 per cent to 56·9 per ecnt.

There is considerable variation in the nature of first activity from speciality to speciality, 83·3 per cent of Mining Engineers go for training after graduation: this is largely due to the fact that practical training for a specified period is essential before a Mining Engineer can appear for the Statutory examinations for Mine Manager's Certificate. Mechanical Engineers andMetallurgical Engineers come next in the order of importance. The proportion of those who go for training is the lowest in the case of Architects (2·9%) followed by Geologists and Geophysicists (13·3%).

REGULAR JOBS

Out of the total of 1,041 respondents, 532 (51·1%) had regular jobs as their first acitvity after graduation. This may, at first sight, appear to be a small proportion but taken in conjunction with the fact that almost the entire balance is distributed between those going for post-graduate courses and those occupying training positions in industry, the proper perspective emerges. Some 85·3 per cent of the Architects have taken up regular jobs as heir first activity after graduation. Agricultural Engineers (76·2%) Civil Engineers (65·7%), Electrical Engineers (56·6%) Geologists and Geophysicists (53·4%), and Electronics and Electrical Communication Engineers (52%) are the other categories where more than 50 per cent of the respondents have reported regular jobs as their first activity after graduation. The percentage in regular jobs is the lowest among the Mining Engineers (11·9%), followed by Chemical Engineers (35·7%) and Mechanical Engineers (45%). A comparatively higher proportion of Chemical and Mechanical Engineers goes in for higher education and training than engineers of other specialities.

In contrast to the percentage of engineers having regular jobs as their first activity after graduation, the percentage of those in regular jobs at the time of the Survey stands at 75·4.

As against 33 per cent who were undergoing training immediately after their graduation, the prcentage of trainees at the time of the Survey was only 7·3.

Nature of Activity in First Employment: The activity-area has been divided into eight specific categories, viz., Maintenance, Construction, Design, and Survey, Research, Teaching, Administration and Management, Transport and Communications and Manufacturing.

Activity in First Employment: In all the five batches, among the various types of activities, Design and Survey work attracted the largest number of respondents. On the average, 28 per cent of the respondents handled Design and Survey work in their first employment, followed by Manufacturing (25%), Construction (14%), Maintenance (8·6%), Research (5·7%), and Administration and Management (4%). Those in "Other" cotagories rose from 6·5 per cent in 1961 to 13·4 per cent in 1965 and those in "Unspecified" rose from 6·5 per cent to 18·8 per cent over the same period.

The pattern of distribution among the various activity-categories differed from speciality to speciality: 73·3 per cent of Architects were in Design and Survey-activities followed by 59 per cent of Naval Architects, 43·4 per cent of Civil Engineers, 42·8 per cent of Geologists and Geophysicists, 37·4 per cent of Electronics and Electrical Communicaton Engineers and 27·6 per cent of Mechanical Engineers. And in Manufacturing, 88·6 per cent of the Mining Engineers were in this activity, followed by Metallurgists (56·7%), Chemical Engineers (44·8% Mechanical Engineers (31·8%), Electronics and Electrical Communication Engineers (19%) and Electrical Engineers (17·3%). Among other points worth

noting are that 41 per cent of the Civil Engineers were in Construction, 23·5 per cent of Agricultural Engineers were in Research and the same percentage in Teaching. Among the various specialities, the highest percentage in administration, namely 18 per cent, was from Agricultural Engineers. The lowest percentage in Design and Survey was in respect of Agricultural Engineers (5·9%) and the lowest percentage in Manufacturing was in respect of Civil Engineers (1·8%).

As far the institution-wise analysis of the type of activity in first employment, 30·3 per cent of graduates of Kharagpur had Design and Survey work as their activity in first employment as compared to 25 per cent of graduates of Bombay, 21·3 per cent of graduates of Madras and 20·8 per cent of graduates of Kanpur. But in most other respects, the differences were not found to be particularly noticeable.

Activity in Present Employment: As in the case of first employment, the largest proportion of the graduates is in Design and Survey work (29·3%). This is followed by 24·1 per cent in Manufacturing, 12 per cent in Research and Teaching, 11·5 per cent in Maintenance and 10·4 per cent in Construction. Predominance of Design and Survey work is more pronounced in the case of earlier batches such as the 1961, and 1962 and 1963 batches; in the 1965 batch, those in Design and Survey work from 21·5 per cent as against 24·4 per cent in Manufacturing.

The specialisty-wise analysis regarding the type of activity also does not disclose any sharp departure from the type of activity in their first employment. About 70 per cent of the Architects, 57 per cent of the Naval Architects, and 46 per cent of Civil Engineers are in Design and Survey work. Approximately 50 per cent or more of Metallurgists (59 2%), Chemical Engineers (52·6%) and Mining Engineers (58·6%) are engaged in Manufacturing. Thirty per cent of Civil Engineers are engaged in Construction; in Maintenance, the highest percentage is from Electrical Engineers (24·3%). Among Agricultural Engineers, 42 per cent are in Research and Teaching.

The change in type of activity from first employment to employment at the time of the Survey showing the number who changed their sphere of activity and the new activity which they took up has been analysed: Out of 683 respondents, 482 (70·6%) did not change their type of activity after they took up their first activity after graduation. This factor has to be evaluated in the context of the fact that the survey covered only a five-year period and 72·3 per cent of the respondents are from the 1963, 1964 and 1965 batches; for most of the respondents only about 2-3 years had elapsed since their entry into the labour market. Nevertheless it is significant that 29·4 per cent of the respondents did change their type of activity during the period under review and this discloses a measure of flexibility in utilisation and versatality of skills which is encouraging.

Respondents by Type of Employer: On the basis of data collected it has been found that the following five cafegories of employing agencies are prominent: (*a*) Government Departments, (*b*) Public Sector Undertakings, (*c*) Local and Autonomous Bodies including Universities, (*d*) Private Sector, and (*e*) Self-employed.

Government Departments and Public Sector Undertakings include concerned agencies under the Central and State Governments. Educational institutions irrespective of whether they are in the public sector or private sector have been included in the category of "Local and Autonomous Bodies includiinng Universities".

As was to be expected, 48·1 per cent of Civil Engineers were in Government Departments and 10·8 per cent were in Public Sector Undertakings making a total of 58·9 per cent in the Public Sector. A very high proportion of Mining Engineers (77%) was in Government Departments and only 15 per cent of them were in the Private Sector; this is largely due to the fact that post-graduate trainees and employees have been treated as one group and the post-graduate trainees under the Government of India scheme have been shown under the Government Departments. The other specialities from where a large number of engineers were in the Public Sector are Agriculture (37·5%), Geology and Geophysics (44·5% in Government Departments and 33·3% in the Public Sector), Architecture (18·5% in Government Departments and 11% in the Public Sector), Electrical (24% in Government Departments and 7·7% in the Public Sector), and Metallurgy (13% in Government Departments and 34·4% in the Public Sector). So far as Private Sector is concerned, the highest percentage of employed persons from any speciality was from Chemical Engineers (75·8%), followed by Mechanical Engineers (63·8%), Electrical Engineers (57·4%) and Architects (44·5%).

So far as institution-wise analysis is concerned, as against the overall average of 26·6% in Government Departments, 31% of graduates from Kharagpur were in Government Departments. The contributions of other institutes to the Government Departments were below average—Bombay 15·4 per cent, Madras 18·8 per cent and Kanpur 9·6 per cent. So far employment in the Public Sector undertakings is concerned, as against the average of 13 per cent under this employing agency, 24 per cent of graduates of Kanpur were in Public Sector Undertakings followed by 14 per cent of graduates of Kharagpur, 12·5 per cent of graduates of Madras and 5·7 per cent of graduates of Bombay. Under the Private Sector, the largest proportion from any Institute was from Bombay (63·4%), followed by Kanpur (57%), Madras (51·6%) and Kharagpur (44%).

Employer at the Time of Survey: At the time of the survey, approximately 49 per cent oft he graduates were employed in the Private Sector. The next sector which claims the largest share of IIT graduates is Government Departments (27%), followed by Public Sector Undertakings (15%) and Local and Autonomous Bodies (8·4%).

The proportion of IIT graduates being absorbed by the private sector seems to be more or less the same as in the case of other groups of engineering graduates.

Various ad hoc surveys disclose that about 40-50 per cent of engineers finds their employment in the private sector.

The speciality-wise analysis of the sector of employment discloses that the largest percentage from any speciality employed in Public Sector is from Civil Engineers (54·3% in Government Departments and 12·2% in Public Sector Undertakings). In the Private Sector, the largest percentage is from Chemical Engineers (73·7%) followed by Mechanical Engineers (67·3%) and Electrical Engineers (51·7%). Taking Public Sector Undertakings separately, the largest percentage is from Metallurgists (32·8%), followed by Geologists and Geophysicists (27·3%).

Those who did not change their employer constitute 31·4 per cent. Government Departments and Public Sector Undertakings increased the respondents employed by them from 261 to 293 and the increase is more marked if 'Public Sector Undertakings' is taken separately. Seventeen respondents switched from the Private Sector to the Public Sector Undertakings as against only three in the reverse direction. The increase in the share of Government Departments is only marginal and it is interesting to note that there has been no net loss to either the Public Sector Undertakings or to Private Sector about 43 per cent of the 1161 batch are in Grades I to III. (Grades I to III, represent pay scales above Rs. 700 per month. These pay scales would be attached generally to positions of Executive Engineers in the Public Works Department and Assistant Professor and above in a College or University. The next level was identified as Grade IV and this was considered equivalent to the pay scale of Rs. 400-950 per month, which is generally attached to posts of Assistant Engineers in Public Works Department and Lecturers in engineering colleges. The third level represents the residuary levels below Grade IV, i.e., pay scales of less than Rs. 400-950 per month.)

This proportion comes down steadily and from the 1965 batch only about eight per cent are in Grades I to III. An interesting feature is that a substantial majority of the respondents are in Grade IV. This is true of even the 1965 batch which, at the time of the Survey, would have completed only about an year after graduation. This seems to indicate that, generally speaking, the initial point of entry for most of the IIT graduates is in Grade IV. Compared to the normal salary of engineers and other professional personnel at the start of their careers, this fact is very encouraging. The speciality-wise anslysis of emoluments discloses many interesting characteristics. Taking Grades I to III, as against the average of 18 per cent of the respondents as a whole, 37·5 per cent of the Electronics and Electrical Communication Engineers, 30·4 per cent of Mechanical Engineers, 29·4 per cent of Agricultural Engineers, 20·3 per cent of Chemical Engineers and 19·5 per cent of Electrical Engineers are in this category. The lowest proportion (6·7%) is from among Mining Engineers. In Grade IV, the highest proportion is from among the Naval Architects (83·4%), followed by Civil Engineers (79·3%), Metallurgists (76·5%) and Architects (70·8%). So far as those below Grade IV are concerned, the highest percentage is from Geologists and Geophysicists (41·6%), followed by Mining Engineers (26·6%).

Job Satisfaction: The lagest group, 42·9 per cent indicated their job satisfaction in the persent post. One interesting point is the batch-wise percentage reporting that they have job staisfaction. This stands between 45 and 50 per cent for the 1961, 1962, 1963 and 1964 batches. This trend was arrested for the 1965 batch and only 35 per cent as against 50 per cent for the previous batch have reported that they are satisfied with the job. A survey of the Council of Scietific and Industrial Research in March 1964 covering about 4,200 graduate engineers disclosed that 40 per cent expressed satisfaction with their work with another 40 per cent "more or less satisfied". Only 20 per cent were without job satisfaction.

Among 340 respondents who do not have job satisfaction, 54 or 9·1 per cent have not given any reason for lack of job satisfaction. The most important cause of lack of job satisfaction shared by 133 out of the aforesaid 340 is dissatisfaction with the type of work which the engineer is called upon to do. Forty-one or 6·9 per cent are dissatisfied with service conditions, with 22 specifically mentioning low salary as the main reason. The small number of respondents reporting insufficient salary as the reason is 68·2 per cent of the respondents are in the salary-grade IV corresponding roughly to Rs. 450-900 scale or above. The second important reason for dissatisfaction reported by 112 respondents (18·8%) is the lack of future prospects.

Job satisfaction speciality-wise 46·9% Mechanical Engineers are satisfied with the job. About 24·2 per cent are dissatisfied with job specification. In the case of Civil Engineers, only 32 per cent have reported satisfaction. The main reasons for lack of satisfaction are unattractive future prospects (30·6%) and unsatisfactory job specification (17·9%). And 36·6 per cent Electrical Engineers are satisfied. Dissatisfaction with job specification has been reported by 25·9 per cent of Electrical Engineers and lack of future prospects by 25·9 per cent. Specialities which have reported high levels of job satisfaction are Geologists and Chemical engineers with 62·5 per cent and 60 per cent respectively; the lowest is from Mining engineers (29%). It was further found that the largest proportion of those reporting satisfaction (60·7%) is from those engaged in Research; among those in Design and Survey, job satisfaction is lowest (35·6%). This may have some relevance to the lack of permanency in their jobs.

The extent of job satisfaction is related also to the employer. Among respondents 45·5 per cent were

satisfied with their jobs. Taking respondents under different employers separately, those who are satisfied constitute 55·3 per cent in Private Sector, 48·7 per cent in Local and Autonomous Bodies, 37·2 per cent in Public Sector Undertakings and 30·2 per cent in Government Departments. Four out of the five self-employed persons are satisfied with their work. The dominant cause of dissatisfaction of respondents in Government Departments is unattractive future prospects. In Public Sector Undertakings as well as in the Private Sector, it is unsatisfactory job specification.

ENGINEERS ABROAD

One of the objectives of the Survey was to get information on IIT graduates who are abroad.

Information was sought from those abroad on the following points: (*i*) Date of going abroad, (*ii*) Purpose of going abroad, (*iii*) Actual duration of stay abroad at the time of filling up the questionnaire and probable duration of stay abroad, and (*iv*) Source of finance.

Among the specialities, Mechanical Electrical and Chemical engineers constitute about 20 per cent each among those abroad, followed by Civil engineers (13%) and Metallurgists (11%). Speciality-wise, Mechanical and Electrical engineers command a more or less proportionate share of those who are abroad, while the share of Chemical engineers is more than proportionate and that of Civil engineers less than proportionate. There is no Geologists or Geophysicist among the respondents abroad.

One of the interesting facts which emerges out of this Survey is that 84·6 per cent first divisioners are abroad.

Nearly 61 per cent of those abroad are in the USA, 18% are in the UK and a little less than 10 per cent in Canada

The purposes of going abroad have been broadly divided into four categories: (*i*) Higher studies, (*ii*) Employment, (*iii*) Study and employment; and (*iv*) Others. Sixty-one per cent went abroad for higher studies and 21% for study as well as employment. Therefore, 82 per cent of the respondents went abroad for pursuing higher studies either exclusively or in addition to some employment. Those who are abroad for other purposes constitute only a small percentage of the total.

Private funds are the source to finance travel and study abroad reported by the largest num ber of respondents (40%), followed closely by scholarships (37%).

An important finding of the above table is that 113 (58%) among 196 respondents were undergoing higher studies or training before they went abroad. Fifty-five out of the 113 had left the country before they completed one year after their graduation. Two conclusions can be drawn from this: About 60 per cent of those abroad at present went before acquiring any intimate familiarity with the labour market in India. Since 82 of those abroad (42%) were undergoing higher studies in India, it may be assumed that many of them did not even enter the laour market. The second conclusion or rather factor to be noted from the data is that 45 graduates who went abroad after spending less than 12 months in India were pursuing higher studies after graduation and 10 graduates who went abroad after spending less than 12 months were in a training position. It would appear that these respondents soon after their graduation tried for admission to post-graduate courses both in India and abroad. They joined the institution in India but left them on obtaining admission in foreign universities.

It may be because at the post-graduate level, the amplitude of facilities is none too satisfactory, and the wastage of such facilities should be a matter of concern to Government and educational authorities.

Distribution of Respondents Abroad by Institution and Host Country

Host Country / Country IIT	USA	UK	Canada	W. Germany	Others*	Unspecified	Total
1	2	3	4	5	6	7	8
Kharagpur	51	25	10	8	9	—	103
Bombay	47	9	4	3	—	—	63
Madras	12	2	3	3	—	—	19
Kanpur	9	—	2	—	—	—	11
Total	119 (60·7)	36 (18·4)	19 (9·7)	13 (6·6)	9 (4·6)	— —	196 (100·0)

*USSR, Japan, Sweden, Norway and Holland.
(*Note*: Figures within brackets are percentages.)

Those who went abroad after holding regular jobs in India are 82 or 42 per cent and 21 of them went abroad after spending less than 12 months in India.

The survey also indicates that of IIT graduates abroad, 65·7 per cent are drawing more than Rs. 3,000 per month 56·7 per cent more than Rs., 5,000 per month.

However the survey shows that earnings of engineers relative to per capita income are much higher in India than in the U.S.A.

CONCLUSIONS AND RECOMMENDATIONS

1. The analysis presented in this IIT graduates survey adds up to a total picture of the employment and utilisation of IIT graduates which is not discouraging from the point of view of the IIT graduates. There is very little unemployment among them and the delay in getting employment is by no means long or alarming. About 15 per cent of them are pursuing higher education and among them about 58 per cent are abroad. Their salary levels are better than levels of other comparable groups of engineers. About 49 per cent of those in employment are in the private sector. About 29 per cent of them are engaged in Design and Survey work and about 24 per cent are in Manufacturing activities.

2. The extent of unemployment among the respondents is of the order of 2·6 per cent and should not normally induce any alarm regarding the prospects of IIT graduates. It is nevertheless of some significance that out of 27 respondents who are unemployed, 12 are from the 1964 batch and nine from the 1965 batch. There has also been a gradual lengthening of the waiting period between graduation and a job for the 1964 and 1965 batches. The IIT graduate, just like any other manpower group, cannot be insulated from the influence of factors that affect the rate of growth of the economy and it is only natural that the showing down of economic growth in recent year should have made an impact on the demand for and utilisation of various categories of manpower.

3. The data gathered during the course of the Survey show that out of a total outturn of 2,164 graduates covered by the Survey, 338 or 15·6 per cent went abroad. The dominant purpose of going abroad applicable to 61 per cent of them was pursuit of higher studies but it is seen that, as a general rule, those who have completed their higher education abroad, show a tendency to stay on abroad for employment. Those who obtained first class in their final degree examination in India constitute 84·6 per cent of those who are abroad and this indicates that the group going abroad contains a disproportionate number of first divisioners. As the Survey covered only the outturn during 1961-65 and since the majority of those abroad has spent only 2-3 years outside India, it is perhaps too early to judge whether their absence from India is purely temporary and for a short duration only. Whether their absence constitutes a "brain drain" will also largely depend upon the definition of the concept. However the data regarding those going abroad disclose a trend that requiries close watching. Higher education in technology and engineering is supported by substantial subsidy from public funds. This element of public cost is further enhanced by scholarships and other financial benefits available to the graduates while they are students. For example, in IIT, Bombay, during 1964-65, 540 students out of a total student population of 1,779 were in receipt of some scholarship or concession which has a well identifiable monetary value. It surely is not one of the purposes of setting up the Institutes of Technology to provide high level manpower to countries abroad. This survey is not concerned with the whole complex of aspects surrounding the problem of brain drain and the data thrown up will not resolve any of the contentious issues connected with the problem. All that we wish to emphasise is that a substantial proportion of IIT graduates is going abroad and the reasons for this and the remedial measures to be taken require close study.

4. Studies of the type presented in this Report which are ad hoc in nature are undoubtedly valuable. But it is necessary that instead of various agencies undertaking such ad hoc studies without proper coordination and at irregular intervals, a more systematic and regular arrangement for tracing the employment career and utilisation of the graduates comes into existence. The National Register maintained by the Council of Scientific and Industrial Research provides for voluntary registration of all graduates in engineering and technology, besides others. It is however difficult to get institution-wise details and from the point of view of the graduates, they are bound to respond in a greater measure to any arrangement existing in their former Institutes than in another place. It is important for the Institutions themselves to keep track of the employment and utilisation of their alumni so that they themselves will become aware, in however imperfect a way, of the adequacy and relevance of the educational preparation in the context of the conditions of the labour market. The IITs have Placement and Training Officers unlike in most other engineering colleges. Their functions are primarily to make arrangements for the training of students during vacation periods and to assist in their initial placement after graduation. Would it be possible to enlarge the area of work of the Placement and Training Officers so as to include in it regular collection of data about the employment career of the alumni of the respective institutions? At regular intervals, say once in an year, the graduates could be requested to fill in a card intimating their industrial sector, occupational sector, salary and other characteristics. If this could be done in all institutions of higher technical education, then the information gap that now exists in one vital area of manpower information will be effectively bridged.

5. Some of the responses received from those abroad contained requests for information on employment prospects in India. There are likely to be many persons who may wish to return to India on completion of their studies or training but are reluctant to face the uncertainties of the labour market in India

when it is much more easy to obtain a satisfactory job in the host country of the moment. In our country, a number of steps have been taken for facilitating the placement in India of Indians who are abroad. Those who register their names in the Indian Abroad Section of the National Register are considered for appointment to the Scientists' Pool and Scientists Pool itself is designed to give temporary placement to Indian scientists and technologists who wish to return to India. The existing institutional arrangements are no doubt important and useful but what is lacking is an agency at home and in our Embassies abroad which keep continuous contact with at least those categories which are considered as key manpower resources required for national development. There is a felt need for such an agency which will be in a position to give advice regarding the specialisations which are in short supply in India, the pattern of job opportunities in India, etc. Apart from giving vocational and career information to those abroad; which is itself an important task, such an arrangement will help build up contacts with overseas Indians and also to reassure them that the authorities in India do care for their return. It is true that, at present, in our Embassies in the U.K. and the U.S.A., we have officials dealing primarily with educational matters. Important as this arrangement is, equal attention should be paid to the dissemination of information among Indian students and trainees who are about to complete their courses abroad or who are already in employment about job opportunities in India. In this connection it is worthwhile to examine how far the type of liaison, that is considered necessary, can be brought about by having Manpower Officers in selected Embassies abroad whose duty it will be to keep track of qualified Indian scientists and technologists and to inform them about job opportunities in India.

Report on the Employment Pattern of Engineering Graduates of University of Roorkee—1966-67

INTRODUCTION

The problem of unemployment of graduate engineers has of late attracted the attention of educationists, planners, government and the general public at large. Until a few years back it was rather unthinkable that the spectre of growing unemployment in the country would also affect our engineers and technologists. This tendency was however noticable about 2 or 3 years back but before something could be thought about it, it emerged out as a great problem within this short time affecting badly this section of our manpower. The problem has now reached such gigantic proportions that it requires to be tackled realistically taking into consideration all factors that might have any bearing on it.

The slump in the employment market rendering the services of our engineering graduates unutilized has brought the question of maladjustment between their education and employment in the forefront and it has now to be considered as to what extent the universities and engineering colleges should restrict our boys and girls to be trained as engineers vis-a-vis their demand in view of the present changed conditions.

There can however be no two opinions that ultimately the availability and proper utilization of our skilled manpower is one of the most important factors affecting the economic development of the country and a study of this type would help us in indicating the direction in which the present out-turn of our engineering graduates be regulated and as to how and to what extent appropriate employment opportunities for them may be created.

The expansion in engineering education has taken great strides and at the current level of out turn nearly 20,000 Engineering graduates are coming out from the universities and colleges every year. In view of the increased number of engineering graduates a need for some reliable information on the employment pattern of these graduates was all the more felt. Although this Survey is confined to the alumni of this University, it is hoped that the results may reflect the overall employment position of the alumni of other institutions as well.

PURPOSE, SCOPE AND METHOD OF STUDY

The Survey was undertaken primarily to assess the employment position of graduates of Roorkee University. It was also intended to throw light on (*i*) the sector of employment, (*ii*) earnings, (*iii*) time lag in passing-out and getting the first job, (*iv*) the salary expectation of unemployed and (*v*) the extent of efforts made by them for obtaining a job.

The Survey was confined to the graduates of 1966 and 1967 covering all the branches of Engineering in this University. The choice for these two years was based upon two factors. First, a survey of the graduates and post-graduates of Civil, Mechanical and Electrical Engineering of this University for the years 1963, 64 and 65 was already completed the report of which is under preparation at the level of the Directorate General of Employment and Training Union Ministry of Labour, Employment and Rehabilation, and secondly, the problem of unemployment of engineers worsened only after 1965. Hence these two years were taken for the purpose of this study so that the latest up-to-date data about the passed out graduates of this University may be available.

The Survey was conducted by mail questionnaire method. Since the basic purpose was to know the extent of employment and unemployment, the questionnaire was made as simple as it could be so that the graduates may not be deterred in completing it apparently for its size. A copy of the questionnaire used for this survey alongwith the covering letter is given in appendix I. The purpose of enquiry is evident from the items of questionnaire which are self explanatory.

The Survey was started by the Employment Information and Guidance Bureau, University of Roor-

kee, in October 1967. In all, 622 graduates were addressed. The foreign students obtaining their degrees from this University were excluded from the purview of this Survey. Of these, 622 graduates, 280 belonged to the year 1966 and 342 belonged to the year 1967. The difference in these two figures is due to the fact that the first batch in Chemical Engineering and Metallurgy came out only in the year 1967. Completed schedules were received from 530 graduates consisting of 226 and 304 for the years 1966 and 1967 respectively. Both the years taken together, the percentage of graduates who responded was 85·2.

Volume of Employment: The total figures for both the years taken together reveal that employment (43·2%) had a little edge over unemployment (41·1%). The proportion of those who were pursuing higher studies was 15·1% and those who were not in the labour force was negligible that is 6%. The relevant figures are presented in the table given in appendix. III for each year and each branch of engineering separately.

Reserve position of employment was revealed in 1967 as compared to 1966, whereas 66·4% of the graduates of 1966 batch had obtained employment, 61·5% of 1967 batch were unemployed at the time of Survey. The fact that employment position has not been confirmed by the percentage of employment (26%) for 1967 batch. Again even though more than one year had passed as many as 13·7% of graduates of 1966 reported to be still unemployed.

As regards employment in different branches of Engineering is concerned in the 1966 batch, the proportion of employed was substantially high among graduates in Electrical Engineering (87·0%) as well as in Mechanical Engineering (78·3%). Whereas the proportion of employed was 58·2% amongst the graduates in Civil Engineering and 55·2% in Architecture, it was considerably low (35·%) among the graduates in Electronic and Communication Engineering.

The employment situaton for 1967 batch has not been bright. This was revealed by the fact that the proportion of employed was only 26% on the whole. The highest proportion among different branches of Engineering (58·8%) was for graduates in Architecture. The proportion of employed in Electrical Engineering was 40·7% and in other branches it has been less than 30%. It was however distressing to note that percentage of employed among Civil Engineering graduates was barely 9·8% which should serve as a pointer to the existing situation.

From the report a tendency is noticeable that whereas amongst the 1966 batch the percentage was nil for those who were not in labour force, it was however 1·0% amongst the 1967 batch.

Employment in relation to divisions obtained in the examinations: It may be worthwhile to know whether divisions obtained by graduates have any bearing on the state of their employment or unemployment.

It has been confirmed that the division definitely has its impact on employment and unemployment. It is revealed that the proportion of employed was higher among graduates who secured first division for each year as well as for both the years taken together, viz. 75·0%, 32·2% and 50·2% respectively. On the other hand the incidence of unemployment from first to second division increased from 6·1% to 24·5% in the year 1966 and from 55·2% to 71·1% in the year 1967 apart from 34·6% to 50·7% for both the years taken together. It may also be worthwhile to see that while in the batch of 1966 the percentage of first divisioners going for higher studies was lower than second divisioners, the position was reverse for the batch of 1967. This may be due to the high percentage of employed graduates in 1966 and their low percentage in 1967. On the whole percentage of graduates going for higher studies for both the years taken together has been almost the same for graduates of both categories.

Time lag between passing the Examination and obtaining first appointment: The proportion of graduates getting employment within 3 months of their passing the examination was only 15·3% and 20·3% for the year 1966 and 1967 respectively. Whereas in 1967 69·6% got employment in 3 to 6 months of their passing the examination, only 26·0% got employment within this time in 1966. The highest percentage viz. 43·4 in 1966 was of those who got employment within 6 to 12 months. It has however been lowest in 1967 i.e. only 10·1%. The unfortunate position is revealed by the fact that 15·3% got employment only after 1 year in the batch of 1966.

The proportion of those who had changed their employment was negligible.

Sector of Employment: The Survey reveals that the State Government is responsible for absorption of highest proportion of graduates (45·3%) in 1966 and (36·7%) in 1967 followed by the Private sector (28·0%) and (34·2%) respectively for these years. Whereas there was none employed in Local Bodies in 1966 the proportion of those employed in the batch of 1967 was barely 2·5%.

Present Salary: No graduate for below Rs. 250/- p.m. in both the years. The bulk of employed persons (82·7% in 1966 and 78·5 % in 1967) was drawing between Rs. 250/- and Rs. 500/-. The proportion of those getting over Rs. 500/- p.m. was only 17·3% and 21·5% for the 1966 and 1967 batches respectively.

Underemployment: It may be interesting to know that in the face of growing unemployment graduates may be completed to accept jobs which may be actually meant for diploma holders. In the present survey 3 Civil Engineering graduates reported to be working in the pay scale of Rs. 180-380 plus Central Government allowances, 5 graduates (4 Electrical and 1 Mechanical) reported to be employed on work charged basis in U.P. State Electricity Board.

UNEMPLOYMENT

While the incidence of unemployment was highest 58·1% in 1966 & 40·7% in 1967 among Civil Engineering graduates, it was lowest 3·2% in 1966 2·7% in 1967 in Architecture. The incidence was more in Electrical Engineering 16·1% than in Mechanical Engineering (9·7%) in 1966, but the position was reverse in the year 1967 (14·4% and 21·9% respectively).

Period of unemployment below 3 months was 6·5% for the 1966 batch and only 0·5% for the 1967 batch, those giving their period of unemployment a from 3 to 6 months for the batch of 1966 was 16·1% and for the batch of 1967 it was naturally as high as 96·8%. The reason is that the Survey was started during this very period after their results were declared. It is saddening that 71·0% unemployed graduates of 1966 batch have shown their period of unemployment for over a year. This is true in case of each branch of engineering. The question of being unemployed for over a year in case of 1967 batch did not arise at the time of this survey.

Salary expectation of Unemployed Engineering Graduates: None of the uneplmoyed graduates expected less than Rs. 250/- p.m. and that the majority of them (87·1% in 1966 batch and 97·9% in 1967 batch) expected between Rs. 250-500, which is quite reasonable. However, in 1966 batch while 12·9% of the unemployed expected more than Rs. 500, it was only 2·1% in 1967 batch, which refers to Civil. Mechanical and Electrical Engineering graduates.

It will also be interesting to know the extent of opportunities provided to the alumni for being considered for a job. That there were few opportunities for employment and the position took a turn for the worse in 1967 was revealed by the fact that 29·4% of alumni did not get any call letter for attending the interviews. Moreover the proportion of those getting call letters for over four times was 10·2% in 1967 as compared to 25·8% in the year 1966. Although the proportion of those attending interviews for over five times was 25·8% in the batch of 1966, it has however tapered down to the minimum (3·7%) in the batch of 1967. This reveals two things, either the frequency of interviews attended declined because of less opportunities available or the candidates felt discouraged to attend interviews apprehending bleak chances of their selection in the fact of growing competition. It is interesting to note that 32·6% of unemployed graduates of 1967 batch had not attended a single interview.

SUMMARY OF FINDINGS

1. A survey was undertaken by the University Employment Information and Guidance Bureau, University of Roorkee, Roorkee, to assess the employment pattern of Engineering graduates who passed out from the University of Roorkee during the years 1966 and 1967.

2. The survey was conducted by the mail questionnaire method. The names and addresses of the alumni were obtained from the University. In all 622 graduates were addressed out of which 280 belonged to the year 1966 and 342 belonged to the year 1967. The percentage of graduates who responded was 80·7 for the year 1966 and 88·9 for the year 1967. The response was 85·2% on the whole for both the years taken together. Whereas the primary aim of the survey was to find out the employment position of our alumni, the report deals with other aspects as well viz. sector of employment, earnings, time lag in passing out and getting the first job, salary expectation, extent of efforts made by the graduates in getting employment.

Volume of Employment

3. The total figures for both the years reveal that the proportion of employment was 43·2% in comparison to unemployment which was 41·1%.

4. The proportion of those getting employment in 1966 and 1967 batches was 66·4% and 26% respectively. 13·7% of the graduates of 1966 batch were unemployed even after a lapse of one year.

5. In the batch of 1966 the highest proportion of employed was in Electrical Engineering (87·0%) followed by Mechanical Engineering (78·3%).

6. In the batch of 1967 the highest proportion of employed was in Architecture (58·8%). It was only 9·8% in respect of Civil Engineering graduates.

7. The percentage of those who were not in labour force in 1967 was 1·0 only. It was however nil in 1966 batch.

Employment in relation to divisions obtained

8. The divisions had an evident impact on employment as the proportion of first divisioners who had been employed was 75·0% and 32·2% as compared to 54·2% and 16·5% for second divisioners for the years 1966 and 1967 respectively.

Time lag between passing the examination and obtaining first appointment

9. Whereas the highest percentage (69·6) in 1967 was for those getting employment in 3 to 6 months of their passing the examination, it was highest (43·4) for those who got employment in 6 to 12 months in 1966. 15·3% in 1966 got employment only after one year.

10. Only 12 graduates reported to have changed their employment.

Sector of employment

11. The State Government was responsible for absorption of highest proportion of graduates (45·3%) in 1966 and (36·7%) in 1967.

Present salary

12. The majority of graduates was drawing between Rs. 250-300 p.m.

Underemployment

13. Underemployment was reported to be negligible

Incidence of unemployment

14. The incidence of unemployment was highest among Civil Engineering graduates and was lowest in Architecture.

Duration of unemployment

15. Seventy-one per cent of unemployed graduates of 1966 batch have shown their period of unemployment as over one year.

Salary expectation of unemployed graduates

16. The majority of graduates expected a salary between Rs. 250-500 p.m.

Extent of efforts made by the graduates

17. The proportion of those who had applied for more than 20 times was the highest for both the years.

Interview letters received by the graduates

18. Nearly 30% of graduates of 1967 batch did not get any call letter.

Interviews attended by the graduates

19. While the proportion of the graduates of 1967 batch attending interviews for more than five times was only 3·7 %, it was however highest (32·6%) for those who had not attended a single interview.

AN ANNOUNCEMENT

UNIVERSITIES HANDBOOK : INDIA AND CEYLON 1968

The next enlarged edition of "Universities Handbook—India and Ceylon 1968" covering 68 universities in India, two universities in Ceylon, five Indian Institutes of Technology and nine institutions "deemed to be universities", is likely to be published in August/September this year. As usual, the chapters relating to each university/institution will give information on jurisdiction, constitution, medium of instruction, library and research facilities, scholarships and fellowships, facilities for private studies, courses of study, colleges, teachers of the universities, etc. One of the new features of this edition will be the inclusion of the names of post-graduate departments and the names of the heads of post-graduate departments in each of the colleges affiliated to the universities. A map showing the location of universities and a subject index are also being included to facilitate reference.

The calico-bound book will contain about 800 pages. The book is likely to cost Rs. 48/-, the exact price to be determined later however.

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2. One Reader in Sociology,
3. One Reader in Hindi,
4. One Reader in Commerce,
5. Two Lecturers in Sociology,
6. Two Lecturers in Hindi,
7. One Lecturer in Commerce,
8. One Lecturer in German,
9. One Lecturer in Russian.

The scales of pay for the posts are as under:—

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These scales of pay carry with them the benefits of Dearness Allowance and Provident Fund in accordance with the rules of the University. These scales will be operative for the time being up to the end of the Fourth Five Year Plan period. A higher starting salary in the grade may be offered to a person with high academic qualifications and teaching experience on the recommendations of the Committee of Selection. The appointment will be on probation for a period of two years in the first instance and persons appointed will have to sign a service agreement bond on joining.

General Qualifications:

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(*a*) (*i*) At least a Second Class Master's Degree in the subject from an Indian University or an examination recognised as equivalent thereto.

(*b*) Ordinarily ten years' total teaching experience in the subject in University or College including about five years' experience of teaching postgraduate classes. In addition, a person should possess experience of undertaking and guiding research, in the subject.

2. Readers

(*a*) (*i*) At least a Second Class Master's Degree in the subject from an Indian University or an examination recognized as equivalent thereto.

(*ii*) A research Degree of an Indian or Foreign University of a Doctorate standard and/or published work of acknowledged merit in the subject.

(*b*) Five years' teaching experience in University or College preferably wholly at postgraduate level. Research experience and guide research in the subject will be considered a desirable qualification.

3. Lecturers

(*a*) At least a Second Class Master's Degree in the subject from a recognised University and/or research Degree of a doctorate standard and/or research publications or acknowledged merit in the subject.

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Special Qualifications :

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He should be a person of outstanding achievements to his credit in *Pure Mathematics* with specialisation in one or more of the following Branches :—

(*a*) Topology,
(*b*) Analysis (Theory of Real Variables),
(*c*) Modern Algebra,
(*d*) Theory of Differential Equations.

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Intensive field work experience is essential. In addition a person should have specialization in any one of the following branches :—

(*a*) Rural and/or Urban Sociology,
(*b*) Political Sociology,
(*c*) Sociology of Kinship,
(*d*) Educational Sociology,
(*e*) Sociological Theory.

3. Reader in Hindi :

A person with one or more of the specializations in the following fields will be preferred in the order given below :—

(*a*) Poetry: Early/Medieval/Modern,
(*b*) Study of Hindi Literature with special reference to present literary criticism.
(*c*) Principles of philology; History, Growth and Development of Hindi Language and Grammar.

4. Reader in Commerce :

Specialization in any two of the following branches:—

(*a*) Cost Accounting and Applied Statistics.
(*b*) Labour Problems and Co-operation.
(*c*) Economics of Planning and Public Enterprises.
(*d*) Corporation Finance and Taxation.
(*e*) Economics of Transport and Insurance.
(*f*) International Economics and Monetary and Fiscal Policy.

5. Lecturers in Sociology :

Specialization in *one* of the following branches will be considered a *desirable* qualification besides general proficiency in the subject of Sociology :—

(*a*) Rural or Urban Sociology,
(*b*) Political Sociology,
(*c*) Sociology of Kinship,
(*d*) Educational Sociology,
(*e*) Sociological Theory.

6. Lecturers in Hindi :

Specialization in *one* of the following fields will be considered a *desirable* qualification in addition to general qualifications mentioned above :—

(*a*) Poetry : Early/Medieval/Modern.
(*b*) Modern Hindi Prose, Hindi Literature and Literary Criticism.
(*c*) Philology of Hindi Language and Grammar.

7. Lecturer in Commerce :

Specialization in *one* of the following branches will be considered *desirable* :—

(*a*) Cost Accounting and General Statistics,
(*b*) Labour Problems and Co-operation,
(*c*) Economics of Planning and Public Enterprises,
(*d*) Corporation Finance and Taxation,
(*e*) Economics of Transport and Insurance,
(*f*) International Economics and Monetary and Fiscal Policy.

8 & 9. Lecturers in German and in Russian :

Special Degree qualifications in the respective languages of a foreign recognised University preferably with English as an associate language will be considered an additional or alternative qualification to the general qualifications laid down above. General proficiency in the respective language and literature is expected.

In suitable cases, the University authorities on the recommendations of the Selection Committee may relax the conditions regarding the prescribed qualifications and experience.

Candidates applying for the posts of Professor or Reader should ordinary rily be below the age of 45 years and those applying for the posts of Lecturers should ordinarily be below the age of 35 years. The age limit may be relaxed in the cases of deserving candidates.

Acquaintance with Marathi Language will be considered as a desirable qualification for all the above posts.

The prescribed application form will be supplied on receipt of a self-addressed envelope (23 × 10 Cms.) bearing postal stamps worth 65 Paise to cover the postage. Applications in prescribed

form should reach the Registrar, Marathwada University, Aurangabad (Maharashtra) not later than *June 25, 1968*, alongwith the fee of Rs. 3/- in the form of postal order.

University Campus,
Aurangabad (Maharashtra)
May 30, 1968.

M. B. CHITNIS
Registrar.

UNIVERSITY OF DELHI

Applications are invited on the prescribed form for Four Posts of Readers in Theoretical Physics at the Centre of Advanced Study (in the Department of Physics & Astrophysics).

Dearness, City Compensatory and House Rent Allowance are admissible according to the rules in force in the University from time to time.

Qualifications:

Good academic record with first or high second class Master's Degree in the subject concerned with a Doctor's Degree or equivalent published work.

Independent published work (in addition to the published work mentioned above) with at least five years teaching experience in Honours/Post graduate classes essential.

The prescribed application form may be had from the Registrar's Office either personally or by sending a self-addressed envelope and stamps worth Re. 0.90 Paise to cover postage.

Applications on prescribed form alongwith the attested copies of the Degree should reach the Registrar, University of Delhi, Delhi-7, not later than the *5th July, 1968.*

Selected candidates will be required to produce the documents in original relating to their qualifications and experience before the offer is made to them.

Note :—

It will be open to the University to consider the names of suitable candidates who may not have applied. Relaxation of qualifications may be made in exceptional cases. Canvassing in any form by or on behalf of the candidate will disqualify.

JIWAJI UNIVERSITY, GWALIOR
Advertisement

Applications are invited for the undermentioned posts in the scales of pay indicated against each. The posts carry the benefits of contributory provident fund and dearness allowance as admissible under university rules :—

Professors (1,000-50-1500)—Onee ach in Physics, Chemistry, Economics and Ancient Indian History and Culture and Archaeology.

Readers (700-40-1100)—One each in physics, Chemistry, Botany, Zoology, Economics and Ancient Indian History and Culture and Archaeology.

Lecturers (400-30-640-EB-40-800)—One each in Physics and Economics and two each in Chemistry, Botany, Zoology and Ancient Indian History and Culture and Archaeology.

Minimum Qualifications :

Professor : A person who has a First Class or Second Class Master's Degree in the subject concerned with a research degree who is a specialist in that subject or branch of the subject, and further who has experience of guiding successfully for seven years research work of students working for the Ph. D. Degree,

OR

A qualified Reader of a School of Studies or University Department with at least fifteen years' standing as a Reader.

Reader :

A person who has at least a Second Class Master's degree 10 years' teaching experience of post-graduate classes, preferably with experience of guiding research.

Asstt. Professor/Lecturer :

(*i*) First Class Master's degree with at least three years' experience of teaching post graduate classes;

OR

(*ii*) Second class Master's degree with at least five years' experience of teaching Post-graduate classes.

(1) (*a*) In the case of Ph.D. with First class or Second class degree, the teaching experience to be reduced by two years.

(*b*) If the teacher possesses research degree with the requisite teaching experience, the condition of Second Class Degree may be waived.

(2) The above qualifications are relaxable for otherwise well qualified and experienced candidates at the discretion of the Executive Council.

(3) Knowledge of Hindi desirable for all posts.

(4) **Age**: Not more than 58 years on 1st June 1968.

(5) For ancient Indian History and Culture and Archaeology the Masters' degree should be in any branch of the subject

Desirable :

For Professors :

(*a*) Independent published work, and
(*b*) Specialisation in any one of the following :—

(*i*) Physics—Solid State/Physics/ Electronics/Nuclear Physics.
(*ii*) Chemistry—Organic/Inorganic/ Physical/Chemistry.
(*iii*) Economics—Econometrics/ Mathematical/Statistics Ecomic Growth & Planning.
(*iv*) Ancient Indian History and Culture and Archaeology — A good knowledge of Sanskrit and /or Five years' experience as an administrative Head of a Department.

For Readers :

(*i*) Botany—Angiosperms/Plant Physiology Plant Pathology/ Cytogen-tcs.
(*ii*) Zoology—Entomology/Fishes/ Radiation/Biology/Cytology/ Animal Physiology.
(*iii*) Chemistry—Biochemistry/ Physical Chemistry/ or Inorganic Chemistry.
(*iv*) Ancient Indian History and Culture and Archaeology—A good knwoledge of Sanskrit and/some Oriental Degree in Vedic Literature or specialisation in any branch.

For Assistant Professors/Lecturers:

(*i*) Ancient Indian History and Culture and Archaeology—A good knowledge of Sanskrit.

Appointment will be made on probation for a period of two years. Applications on prescribed forms obtainable from the University Office on payment of Rs. 5/- (for the post of lecturer) and Rs. 5/- (for the post of Reader and Professor) should reach the Registrar by name on or before the *8th July, 1968.* Candidates may also apply on plain paper with the crossed postal orders for the amounts mentioned above, stating age, detailed educational qualifications, indicating class obtained and subjects offered in each University examination, teaching experience in degree and post-graduate classes (institutionwise), and details of research and published works, alongwith attested copies of degrees and certificates. Separate application and separate fee is required for each post. The postal orders should, in all cases, be marked payable to the Registrar, Jiwaji University, Gwalior, and made payable at the City Post Office, Gwalior.

Sd/-
(Sham Narayan)
Registrar
Jiwaji University,
Gwalior

UNIVERSITY OF GORAKHPUR
Advertisement No. 43

Applications in the prescribed form (8 copies) available from the office of the Registrar on payment of Rs. 5/- for the post of Reader and Rs. 2/- for the post of lecturer as a registration fee, payable in cash or by money order or Postal order drawn in favour of the Registrar, University of Gorakhpur,

Gorakhpur for the following posts are invited so as to reach this office through employer, if employed not later than *June 25, 1968*.

Provident Fund benefits according to University rules are available. The general conditions of service will be those embodied in the agreement of service will be those embodied in the agreement of service, which the employee will have to sign before he enters upon his duties or as soon as possible thereafter.

Reader: One in Sanskrit (Temporary with prospects of Permanency) in the grade of Rs. 700-50-1250.

Qualifications :

(*a*) A first class Master's degree or
(*b*) A high Second class with Doctorate Degree in the subject and
(*c*) Postgraduate teaching experience of atleast 5 years
(*d*) capacity of conducting and guiding research.

Lecturers: —In the grade of Rs. 400-40-800-50-950.

(1) One in German (Permanent)
(2) One in Russian (Permanent)
(3) One in Physics (Temporary)
(4) One in Chemistry (Temporary)
(5) One in Political Science (Temporary)
(6) One in Medieval History with specialization in Medieval History (Temporary)
(7) One in Geography (Temporary)

In either case the candidate should have a consistently good academic career. Preference will be given to a candidate with teaching and research experience.

The candidates will be required to appear for an interview if called, at their own expense. The Selection Committee may recommend higher initial salary to a person specially qualified for the above posts. It will be open to the University not to fill up any post advertised. Convassing in any form by or an behalf of the candidate will disqualify him.

(Bholendra Singh)
Registrar.

UNIVERSITY OF SAUGAR
Advertisement No. R.6/68

Applications are invited for the following posts so as to reach the Registrar, University of Saugar, Sagar (M.P.) not later than *30th June, 1968*. Applications for the prescribed form should be accompanied by a self-addressed envelope and a postal order of Rs. 5.00 as application fee.

Candidates already in service should send their applications through the proper channel. An advance copy, however, may be sent direct. The application should carry a testimonial with regard to the work and conduct of the candidate from the Head of the Institution he is serving or has last served.

Candidates selected for an interview will have to come to Sagar at their own expense and bring with them their original research papers, degrees etc.

The period of probation shall be two years from the date of substantive appointment to the permanent posts. This period of probation, may, however, be extended by such further period as the Executive Council may deem fit, but the total period of probation shall in no case exceed three years. Service during the temporary appointment including the probationary period may be terminated without notices and without assigning any reason.

The age of retirement is 60 years.

Pay Scales

Professor—Rs. 1,000-50-1500 with benefits of Provident Fund according to rules.

Reader—Rs. 700-40-1,100 with benefits of Provident Fund and D.A. according to rules.

Asstt. Prof.—Rs. 400-30-640-800 with benefits of Provident Fund and D.A. according to rules.

Higher starting salary in the prescribed scale may be given to exceptionally qualified and experienced candidates.

Qualifications

Professor:

(*i*) A Doctor's Degree and/or high academic attainments with wide recognition for scholarship and original contribution to the subject.
(*ii*) Published work to their credit.
(*iii*) Extensive experience of conducting and guiding research.
(*iv*) At least ten years experience of teaching post-graduate classes.
(*v*) A good working knowledge of Hindi both written and spoken.

Reader:

(*i*) A Doctor's Degree or a First class Master's degree or a Second class Master's or an equivalent degree with original contribution to knowledge in the subject.
(*ii*) Extensive research experience and/or published works to their credit.
(*iii*) At least seven years experience of teaching post graduate classes.
(*iv*) A good working knowledge of Hindi both written and spoken.

Asstt. Professor:

(*i*) A First Class Master's or an equivalent degree in the subject recognised for the purpose by the University; OR
A Second class Master's degree or an equivalent degree recognised by the University with atleast two years teaching experience of post-graduate classes preferably at a University or with recognised research work.
(*ii*) He must be able to teach in Hindi.

Specialisation

Candidates must particularise in every case the branch of their specialisation.

Candidates must indicate their qualifications from Matriculation upwards in details.

Permanent Posts:

1. A Professor of Chemistry
2. A Professor of Zoology
3. An Assistant Professor in Chemistry
4. Two Assistant Professors in Physics
5. An Assistant Professor in Applied Geology.*

Posts sanctioned under Fourth Plan upto 28.2.71; but May continue thereafter

1. A Professor of Economics
2. A Professor of History; with specialisation in Modern Indian History.
3. Two Readers in Chemistry
4. Two Readers in Physics
5. Two Readers in Botany
6. Two Readers in Zoology
7. A Reader in Mathematics
8. A Reader in Applied Geology
9. A Reader in Geography
10. A Reader in Anthropology
11. A Reader in English
12. Two Readers in Hindi
13. Two Readers in Political Science: For one post the candidate should have specialised in Political Thought.
14. A Reader in Ancient Indian History Culture and Archaeology with specialisation in Archaeology
15. A Reader in Commerce
16. A Reader in Psychology
17. A Reader in Philosophy

Department of Education

One post of Professor of Education for College of Education.

Department of Applied Geology

One post of Assistant Professor for a period upto 28.2.1971 in the first instance; but my continue threafter. Specialization in petrology and structural geology desirable.

Centre of Advanced Study in Geology

Two Senior Research Fellowships on a fixed pay of Rs. 500.00 P.M. Duration two years in the first instance. Candidates should preferably hold a Ph.D. Degree in Geology; or have equivalent published Research work to their credit. The selection will be made on an all-India basis.

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY.
P.O. I.I.T. Powai, Bombay-76
Advertisement No. 600/1968.

Applications for the permanent post of *Glass Blower Supervisor* on plain paper stating qualifications, experience age, present employment etc., are invited before *6th July 1968*, by the Registrar, Indian Institute of Technology, P.O. I.I.T. Powai, Bombay-76. Enclose copies of certificates and Postal Order for Rs. 3/- (25 paise for Scheduled Castes/Tribes) payable to I.I.T., Bombay-76. Persons employed in Government/Semi-Government Organisations or Educational Institutions must apply through employer. Preference will be given to the candidates belonging to Scheduled Castes/Tribes.

Glass Blower Supervisor : Chemistry Department.

Age: Preferably below 30 years relaxable in deservinog cases.

Scale of Pay: Rs. 250-10-320-15-470, plus usual allowances.

Qualification and Experience:

S.S.C. or equivalent with at least 10 years experience in glass blowing in a glass blowing factory, research Institution/Academic Institution etc. capacity to fabricate glass equipment according to specifications; experience in grinding; metal to glass seal; capacity to supervise the work of Jr. glass blowers. Qualifications relaxable in case of highly skilled and experience persons.